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THE STRUCTURE OF MUSIC

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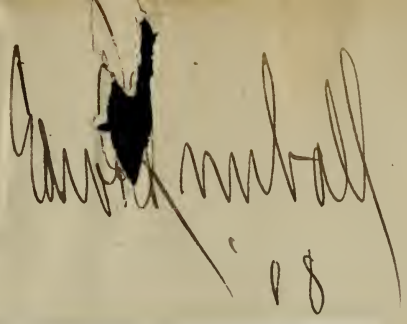

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McCUNE SCHOOL OF MUSIC & ART

THE

STRUCTURE OF MUSIC

158

AN

ELEMENTARY TEXT-BOOK

ON

NOTATION AND HARMONY

WITH

FULL ILLUSTRATIONS AND ABUNDANT EXERCISES;

FOR USE IN

THE CLASS-ROOM, AND FOR SELF-INSTRUCTION

BY

GEORGE COLEMAN GOW,

PROFESSOR OF MUSIC IN VASSAR COLLEGE,
Poughkeepsie, N. Y.

NEW YORK: G. SCHIRMER.

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Respectfully Dedicated to

DR. B. C. BLODGETT

and

PROF. E. B. STORY,

Of the Smith College School of Music,
Northampton, Mass.

who have been to me inspiring teachers and valued friends.

PREFACE.

The following pages are an attempt to present logically and consecutively the material of music from the grammatical standpoint. The student is invited to the first page as to the grammar of an utterly new language, and is urged not to allow what previous desultory knowledge he may have to confuse his grasp of each subject as it is presented. While a teacher ought, in all his work, to be instructing out of the full knowledge of the history of music, both theoretical and practical, his aim must always be to present to students that which is. Music is a language, and, like all other languages, is ever in the process of making. This fact must be recognized in order, on the one hand, to defend the work both of the theorists and the composers of the past, and, on the other, to clarify the vision of the present theorists, and composers.

No writers are more strictly bound by rule than the great geniuses. From first to last such men as Saint-Saëns, Grieg, Tschaikowsky, and Wagner establish by their harmonic-structure the laws of theory and of acoustics which they are so often assumed to violate. The limits of the present treatise forbid a demonstration of the statement just made. This must be left to a text-book on Composition, which should turn the simple problems of the grammar of music into the æsthetic crucible of art, and should show how the wonderfully complex purposes of a composer, while bringing him to a resultant that often apparently contradicts the canons of grammar, really triumphantly confirm them by showing that the art-product rests its sole

possibility of existence upon the presence and immutability of these very laws. In like manner, the purpose of this book,—that of a text-book for instruction,—compels the author to deny himself, in most cases, the privilege of presenting the reasons for changes which have been made from existing views.

In general it may be said that all these changes have originated from the attempt to present the real, though often unconscious, standpoint of the practical composer. This in all ages must be the task of the theorist; to follow logically, step by step, through all its processes, the lightning-flash thoughts of the creative artist, and to substantiate and demonstrate them. This process always serves to vindicate the composer, as well as to lay bare those weaknesses, which he himself often feels, but under the spur of his fantasy cannot stop to trace to their sources.

In conclusion, it may be pointed out that the task of the theorist, as just stated, is itself the unassailable argument why every earnest student of music should make the structure of music his study, as a means of broadening his judgment as well as his enjoyment of the treasures of his art; while to the composer such study is indispensable as a means of acquiring that technique which will keep him from many of the faults which might otherwise hamper all his work.

George Coleman Gow.

Poughkeepsie, N. Y.,
Sept. 1st, 1895.

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NOTE TO TEACHERS AND STUDENTS.

ALTHOUGH by far the most valuable use of this book will be to master every successive step from beginning to end; yet it is entirely possible for students who are mature and well advanced in general musical knowledge to begin at once with Part II, Harmony. In this case, immediate and constant reference to Part I, especially to the subjects of Scales and Signatures, and of Rhythm, will be necessary; and the student will find the Index at the end of the book, as well as the cross-references in the text itself, indispensable.

The attention of all who use Part II is called to the threefold treatment of every subject; namely, the material in hand is first discussed in its simplest, most natural use; then the modifications of this usage due to the laws of variety are presented; finally, the further modification, due to the restraint of having some fixed melody to incorporate into the music, is given. The systematic habit of recognizing the influence of these three considerations is an aid to the student's judgment in the later study of *free composition;* while in grammatical, elementary work it is most helpful if one would avoid the profitless blundering which comes from writing by mere blind rules.

It will be observed that no use is made of figured basses in the teaching of harmony. Practical class-room work has convinced the author that a much firmer grasp of the principles of chord connection is obtainable without the burden of the thorough-bass rules and names than with them. Notice, also, that by the system of reference to every statement in the book by page and sentence, the student can most advantageously be taught to correct his own exercises after looking up the principle or rule transgressed in his work.

Students who have already finished a course in harmony in some thorough-bass text-book, can make very profitable use of this book as a review course, especially if they will undertake to play the exercises at the piano instead of writing them, or will both write and play.

THE STRUCTURE OF MUSIC.

PART FIRST.

NOTATION.

1 **Music** is a language; **notation**, its written symbol.

CHARACTERISTICS OF MUSICAL SOUND.

2 A musical sound may differ from another musical sound in four particulars only:—

3 In **pitch**: i. e., popularly speaking, sounds may be high or low.

4 In **duration**: i. e., sounds may be long or short.

5 In **force**: i. e., sounds may be loud or soft.

6 In **timbre** or **color**: i. e., sounds may have the quality of the flute, violin, voice, etc.

NOTATION OF THESE CHARACTERISTICS.

7 The notation of pitch and of duration has been quite fully developed, for it is essential to the writing-out of every kind of
8 composition. The notation of force is desirable with most kinds
9 of composition, and has an almost adequate vocabulary. The notation of color is confined to orchestral, organ and choral compositions; for it consists simply in the indication of what instruments, organ-stops, or voices are to be used, i. e., what is called the scoring of the composition.

A. ON PITCH.

10 There is a vast number of possible musical sounds (technically
11 called **tones**) of different pitch. Out of this number the music of
12 civilization has made choice of certain few. Starting upward from any given sound, twelve different pitches, practically equidistant, are used; while the thirteenth sound is strikingly similar to the first, the same yet not the same, being plainly above the first,
13 yet more easily mistaken for it than for any other. The relationship of two such pitches (i. e., of a tone and the thirteenth
14 tone above it) is called that of the **octave.** The duplication of these twelve pitches through a series of octaves (something more than eight octaves are now in use) constitutes the material of music as to pitch.

15 The relationship of a musical sound to the next musical sound above it, is called that of the **half-step.**

The relationship of a musical sound to the second sound above it (two half-steps), is called that of the **whole-step.**

NOTE 1. These paragraphs require illustration *in sounds* by a teacher; or experimental striking of the successive keys of a pianoforte by a pupil.

NOTE 2. In the discussion of pitch here given, equal temperament is assumed.

NOTATION OF PITCH—THE STAFF.

Notation of pitch has been accomplished by means of the **staff,** a series of parallel horizontal lines, upon any one of which and upon the spaces between them characters called notes (which at the same time notate duration) may be placed. A position, space or line, upon the staff is called a **degree,** and to each degree a definite pitch is given.

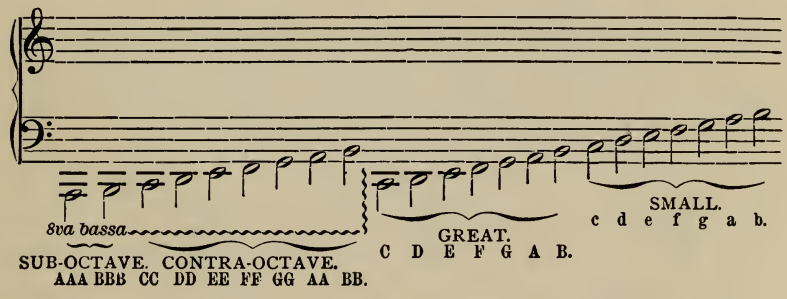
Portions only of the whole (great) staff, namely, one or two groups of five lines each are used at a time, temporary additions being made when special notes are required; and signs, called **clefs,** are placed at the beginning of each portion, to indicate the section of the great staff then occupied.

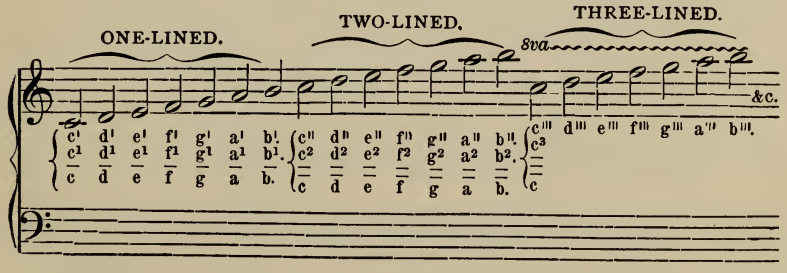
THE GREAT STAFF, TO THE EXTENT OF THE MODERN PIANOFORTE.

In order to avoid excessive use of the temporary additional lines (called **leger-lines**) when writing sounds that lie at the extreme parts of the great staff, it is customary to employ an abbreviation, writing the high sounds an octave lower than they are to sound, and using a special sign, thus, *8*~~~ or *8va* (*all' ottava*, "at the octave"), with a wavy or dotted line continued as long as the notation is desired, to indicate their real place; and the low sounds an octave higher with a special sign, thus, *8*~~~ or *8va bassa* ("at the octave below"), to indicate their real place. At the conclusion of the passage thus notated, either a short straight

line is drawn from the wavy line toward the staff, or the word *loco* ("in place") is written; e. g.:

1 Not all the pitches in use have received a staff degree. Letter-
2 names are given to those within the octave, seven in number,
3 which own a degree; namely, c d e f g a b. Special designa-
tions also are used for the different octaves, as follows:—





4 When two or more portions of the staff are used together, they are usually joined at the left by a sign called a **brace.** See illustrations above, etc.

1 The portions of the great staff which are in universal modern use, are (as indicated in the preceding illustrations) that which contains the line g^1 with its clef (which is but a fanciful modification of G), three lines above it and one line below it; and that which contains the line f with its clef (similarly al-
2 tered from F), one line above it and three lines below it. The staff-portion having the clef is called the **violin clef** or **G clef** (by convenient misuse of the word *clef*); the staff-portion having the clef is called the **bass** or **F clef.**

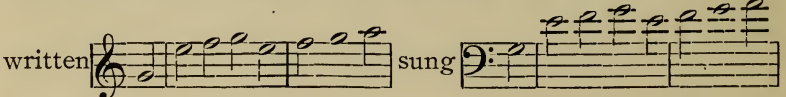
3 If these two clefs appear together above one another (as for example is commonly the case in piano and organ-music), there is but one line missing between them to prevent their presenting
4 a continuous section of the great staff. This line, one-lined c^1, called also **middle c,** lies in the upper part of a man's and the lower part of a woman's voice, and more completely than any other sound may be said to be the centre of the musical system.

5 Although the F and G clefs are sufficient for most modern music, music for certain orchestral instruments, and some ecclesiastical music, still use a staff-portion with middle c^1 and a C clef (&c., all modifications of C), and with a suitable number of other lines above and below it, as
6 the case may require. That with four lines above is called the Soprano or Treble clef; that with two above and two below, the Alto clef; that with one above and three below, the Tenor clef.

e. g.

7 Other portions of the staff with other clefs formerly in use, are now entirely obsolete.

8 In order to avoid the use of leger-lines, in writing music for a tenor voice alone, it is also customary in modern music to write it an octave above where it is to be sung, and in the G clef.



9 **EXERCISE 1.** Write upon a separate slip of paper each letter from
10 AAA to e^4; shuffle the slips, and drawing at random, write upon the staff
11 the note indicated until all have been used. Repeat the shuffling and writing until the sight of a letter instantly suggests the notation. In notating the letters make use of leger-lines and *8va*, where there is advantage in so doing, and always use the appropriate clef.

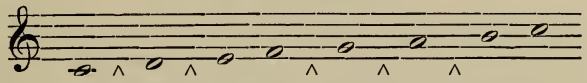
12 **EXERCISE 2.** Arrange in order the slips used in Ex. 1, and referring to the notation written out for Ex. 1, draw the letter corresponding to each

notation until all are used; then repeat the sorting and drawing until a notation at once suggests its letter.

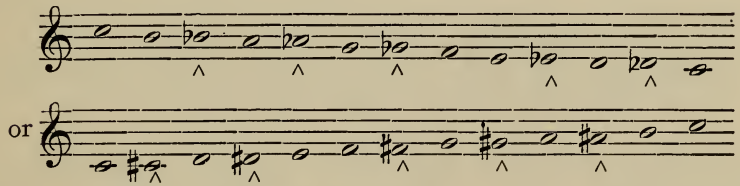
Notation of Sounds having no Staff-Degree.

SHARPS AND FLATS.

1 The five sounds within the octave omitted from the staff are found between c-d, d-e, f-g, g-a, and a-b.



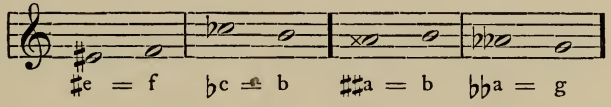
2 They may be readily indicated by use of the sign ♭, called a **flat**, and signifying that the sound desired is the next sound (a half-step) below the pitch of the note at the left of which it stands; or by the sign ♯, called a **sharp**, and signifying that the sound desired is the next (a half-step) above the pitch of the note at the left of which it stands.



3 It is often valuable in notation to use ♭s or ♯s to indicate sounds which have position on the staff, thus writing the sound upon the degree adjoining its own: for example, ♯e=f or ♭c=b.

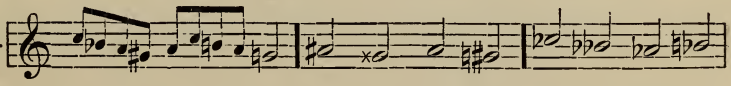
4 This is often desired even if the note of the adjoining degree

5 indicates a whole tone above or below the required pitch. It is accomplished by the use of the *double sharp*, ×, or the *double flat*, ♭♭.



6 The sign of restoration after a flat or a sharp has appeared,

7 namely, ♮, is called a **natural** or **cancel**. The sign of restoration to a single ♯ from × is ♮♯, to a single ♭ from ♭♭ is ♮♭.



8 The common name for all these signs is **chromatic signs.**

9 N. B. Observe that by including the use of × and ♭♭ every one of the twelve sounds can be written in three ways, except ♭a or ♯g, which has but these two writings: i. e., there are 35 pitch-

notations within the octave. The different notations of the same sound are called **enharmonic writings.**

EXERCISE 3. Write upon the staff every pitch from c to c^2 in all of its enharmonic notations.

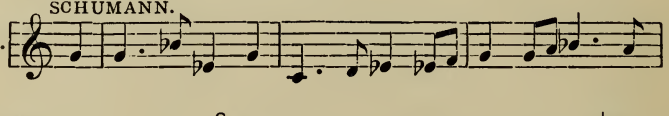
EXERCISE 4. Write upon the degrees here indicated sounds a whole-step higher than those here given—♭f, d^1, e^2, ♭b, ♭♭g^1, ♭e^2, b^1; a half-step lower than those here given—f^1, ♯a, ×c^2, ♭b, 𝄪d^1, ♭c^1, ×e^2.

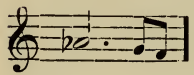
THE SCALES.

While twelve different sounds (p. 7, s. 12) comprise the pitch-material of music, any given composition usually is restricted to a still less number as its main material, and out of this lesser number *one* (called the **key-note** or **tonic**) is found to have special importance.* The series of tones thus chosen, given in regular order from one key-note to the next, is called the **Scale.** The scale is thus the working vocabulary of the music-poem,—tones outside of the scale coming in, when used, as special ornaments of speech to give extra grace or force, and being effective somewhat in proportion to their rarity.

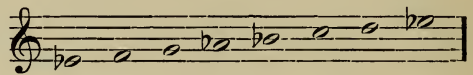
SCHUMANN.

A melody.





Its scale.



The music itself using a scale with a certain key-note is said to be written in the **key** of that note. Thus, the melody above is in the key of ♭E, since ♭E is the key-note of the scale used.

DIATONIC SCALES.

Scales of seven notes which occupy the successive degrees of the staff are called **diatonic.** Out of the large number of diatonic scales which might be constructed to a given key-note (and many of which have actually been tried at some period in the history of music), two have commended themselves to musicians in so high a degree that they may be called **the normal** or **structural** scales of modern music, inasmuch as they are the only scales strong and interesting enough to allow a complete composition to be constructed upon them. These scales are the **Major Scale** and the **Harmonic Minor Scale.** All other scales now in use are but *æsthetic modifications* of these: i. e., are used in order to produce a sad in place of a bright effect, or a weird in place of a calm effect, &c.

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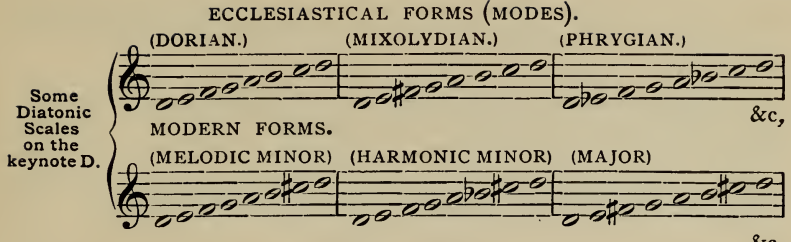
* In what the importance of the key-note consists is explained under the head of Tonality, p. 69.



1 Of these two structural scales the Major is, in all respects, the more important, the Harmonic Minor itself being in fact a modification of the Major.

STRUCTURE OF THE MAJOR SCALE.

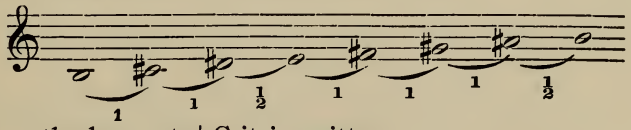
2 The characteristic effects of the **Major Scale** are given to it through the use of certain chords (see p. 61, s. 2) out of the tones of which the scale is formed.

3 The *sounds* of the major scale are selected as follows: The initial tone is called the key-note; the second tone is a whole-step above it; the third, a whole-step above that; the fourth, a half-step higher; the fifth, a whole-step higher; the sixth, a whole-step higher; the seventh, a whole-step higher, and the last a 4 half-step higher at the octave of the first. Briefly, the selection is by two whole-steps and a half-step, three whole-steps and a half-step.

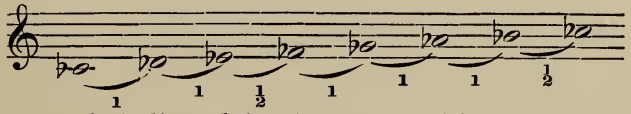
5 NOTE. This paragraph likewise calls for illustration in *sound* by the teacher, or for a practical demonstration by the pupil at the piano.

NOTATION OF THE MAJOR SCALE.

6 The definition of the Major scale as *diatonic*, with the structure above given, determines also its notation in any particular case; e. g., on the key-note B the scale is written



while on the key-note ♭C it is written



but the sounds indicated by these two writings of the scale are identical.

7 Any one of the twelve sounds may be key-note of a Major scale; and each scale may have, at least, two enharmonic nota-

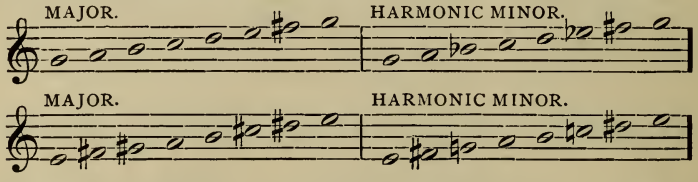
tions, as see above. But in most cases one of these notations of a major scale is much simpler than the other, and therefore preferable.

EXERCISE 5. Write out the major scales of C, ♯C, ♭C, D, ♯D, ♭D, &c., to ♯B, ♮B, ♭B—21 scale-notations. Put in each case the required sharp or flat at the left of the note requiring it.

NOTE. As a convenience, in this text-book, Major scales will always be referred to with a capital letter; Minor scales with a small letter.

MINOR SCALES.

a. The characteristic effects of the **Harmonic Minor Scale** are given to it through the use of certain chords, out of the tones of which the scale is formed. It differs from the Major scale on the same key-note in but two sounds—namely, its *third tone* and its *sixth tone* are each a half-step lower than in the Major.



EXERCISE 6. Rewrite the 21 scale-notations of Ex. 5, as Harmonic Minor scales, according to the definition given above.

b. The Harmonic Minor scale does not always make smooth melody. A piece of music written in this scale, therefore, sometimes deviates from it in order to improve its melody. The forms of minor scale which exhibit these deviations are called **Melodic Minor scales.** The particular variations are determined usually by the accompanying chords. They are as follows:—

1. First five notes as in Harmonic Minor, sixth and seventh as in Major.

2. First five notes as in Harmonic Minor, sixth and seventh each a half-step lower than in Major.

The first form is used more commonly in an ascending melody, and the second in a descending melody. Hence, although this is by no means universally the case, the forms have been called respectively the Ascending and the Descending Scale.

EXERCISE 7. Notate the melodic minor scales of c, d, e, f, g, a, b, ♯c, ♯d, ♯f, ♯g, ♯a, ♭b, ♭e, and ♭a.

OTHER MODERN DIATONIC SCALES.

It is imperative to recognize that the Major scale is *the* scale of modern music. Other modern scales are substitutions for it in order to gain particular effects. The only other scale which is interesting and strong enough to take the place of the major throughout a whole piece of music is the Harmonic Minor, as has been said; and the two together are the structural scales of modern music. But modern writers are continually deviating from the major or the harmonic minor scale in single sections of music or single groups of chords, and forming what might be named a new scale for the few minutes that it lasts; for example, the melodic minor. In like manner, constant shifts into the minor from the major, the major from the minor, or into portions of the minor while the major still holds in the main, or into portions of the major while the minor still predominates, are made to lure the mind from one scale impression to another, and to suggest what are occasionally described as mixed forms of scale: Major-minor, minor-major, &c.

All these scale-forms are readily recognized by a musician who has mastered the use of chords in modern music, and therefore do not require separate analysis. But *one important generalization should be noted;* that these deviations from the Major do not affect the fourth or fifth tone of the scale; or, of course, the key-note. The second, third, sixth or seventh, any or all of these may be a half-step lower than in the major; but diatonic scales which have a different fourth or fifth from the major scale have been introduced into music *only to be rejected* as unsatisfactory by the whole musical world.* The material of diatonic scale-structure, proven historically of value, is, therefore, that of the major scale, with possible alterations of a half-step lower for the second, third, sixth or seventh tones.

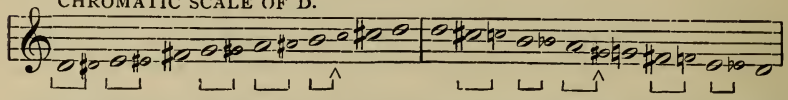
THE CHROMATIC SCALE.

This makes use of the whole twelve tones within the octave, and is thus essentially different from all diatonic scales. Instead of being a substitution, it is an *enlargement* of the major scale. In both ascent and descent, therefore, the tones of the major scale appear in their *regular notation*, while the tones additional to the major scale are notated as alterations of the notes written

* The Hungarian scale, which is like the Harmonic Minor, except that its *fourth* is a half-step higher, is an exception to this statement that is more apparent than real; for the practical use of it either adopts two shifting key-notes, or makes the fourth purely a chromatic tone.

before them, with *two exceptions*. These exceptions are: For certain reasons connected with the use of chords, the note between the fourth and fifth of the major scale is almost invariably written on the fourth degree, in descent as well as ascent: and the note between the sixth and seventh, on the seventh degree, in ascent as well as descent.

CHROMATIC SCALE OF D.

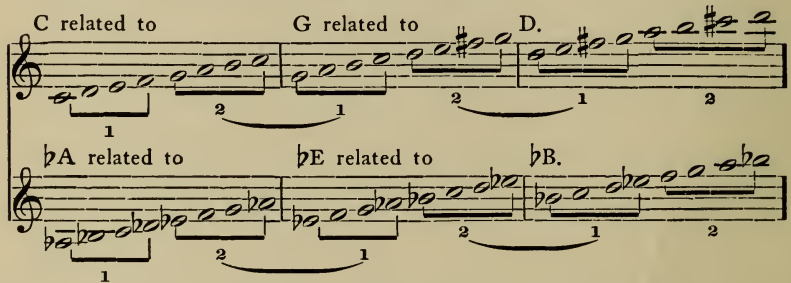


EXERCISE 8. Write out in full the chromatic scales of E, ♭B, G, ♭A and C.

RELATIONSHIP OF KEYS.

Scales which contain all tones save one in common are said to be related.

Each major scale is related to the major scale whose key-note is the fifth of the given scale, and to the major scale whose key-note is fourth of the given scale. Thus, e. g., the scale of G is related to the scale of D and to the scale of C; the scale of ♭E is related to the scale of ♭B and to the scale of ♭A.



This appears clearly upon observing the cleavage of the major scale into two four-note scales, called *tetrachords*, having each the progression two whole-steps and a half-step, the first note of the upper tetrachord lying a whole-step above the last note of the lower. Any such tetrachord might serve as the upper part of one major scale or lower part of another, while the remaining tetrachord of either scale would differ in but one note from the other scale.

EXERCISE 9. Recite orally the related Major scales in order, beginning with the scale of C, and taking for each successive key-note the fifth note of the previous scale, until the scale of ♯B (which is an enharmonic of C) has been recited. In the process of recitation, observe carefully the order of the key-notes and the number of ♯s used in the notation of each scale.

EXERCISE 10. Recite orally the related Major scales in order, beginning with the scale of C, and taking for each successive key-note the fourth of the

previous scale, until the scale of ♭♭D (which is an enharmonic of C) has been recited. In this process of recitation, observe carefully the order of key-notes and the number of ♭s used in the notation.

OBSERVATIONS UPON EXERCISES 9 AND 10.

Comparing these two exercises, observe that the twelve different major scales can be notated without the use of more than six ♯s or six ♭s; every scale using a greater number of ♯s having, for its enharmonic, one using a less number of ♭s, and vice versa; while but one scale can be notated without the use of sharps or flats at all. This series of related major scales, when conceived in the order given in exercise 9, is called the *Circle of Fifths*; when conceived in the order given in exercise 10, the *Circle of Fourths*. Notice that the Circle of Fourths, also, when given in reverse order, becomes the Circle of Fifths, and vice versa. Each scale in the Circle of Fifths differs from the preceding scale in its *seventh* note. Each scale in the Circle of Fourths differs from the preceding scale in its *fourth* note.

Each Major scale is likewise related to the Minor* scale the key-note of which is the sixth of the major scale.

EXERCISE 11. Recite orally the relative Minor scale of each of the twelve Major scales, in its enharmonic notations, and observe carefully which notation is the simpler.

NOTE. Many writers extend relationship to scales with *two* divergent tones. But a much more important view of the interconnection of keys than such an extension of relationship will be presented later under the head of Modulation. As a further test of familiarity with scales it would be in place to add here an exercise based on the extended relationship, with two divergent tones. For example:—

EXERCISE 11. b. State the four Major and four Minor scales that differ in but one or two notes from the scale of G; of ♭E; of ♯F.

SIGNATURES.

a. Of Major Keys.

The student will already have observed that the notation of each major scale has a different number of sharps or flats from every other, and in the order of the circle of fifths the increasing number of sharps in successive keys always includes those of the previous keys, while in the circle of fourths the increasing number of flats likewise includes those of the previous keys. This fact has furnished a means of getting rid of the burden of writing sharps or flats before every note that needs it. A group of the sharps or flats necessary in a given scale is set at the beginning of each staff after the clef, and since this group differs for each key, one may recognize the scale of the music at once, and supply in thought all the chromatic signs necessary,

* When the *minor* scale is spoken of without any qualifying word, the Harmonic Minor scale, which is the structural scale, is always meant.

although they are not written at the left of the notes requiring
1 them. This group is called the **signature of the key.**
2 The conventional mode of writing these signatures is as follows; the sharps being set in order from left to right as they are successively added to keys in the circle of fifths, and the flats as they are added in the circle of fourths.

3 The letters in the above example over and between the staves indicate the key which uses for its signature the sign under the letter, *together with all the other signs to the left of it.*
4 The key of C needs neither sharps nor flats for its notation, and, therefore, has no signature.
5 **EXERCISE 12. Write out separately, on both the G and the F clefs, the signatures of each of the fourteen keys which have just been displayed in groups.**

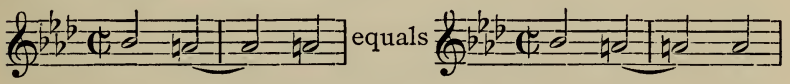
b. Accidentals.

6 Whenever in writing music a tone which does not belong to the scale is used, it is necessary to place the chromatic sign which will determine the tone exactly, before the note, except when the *same tone* is used more than once in the same measure. (See p. 38, s. 7)

7 The chromatic signs additional to the signature are called **accidentals.**
8 In the exception just mentioned, the accidental is used with the *first notation* of the tone, and is then regarded as a temporary addition to the signature *during the remainder of the measure,*
9 *and for the note affected only,*—NOT FOR ITS OCTAVES. If, therefore, the *scale-tone* occurs again in the same measure on the degree where an accidental has appeared, it is necessary to use the appropriate cancelling accidental to restore the scale-tone, thus:

1 See also the Schumann example on page 18.

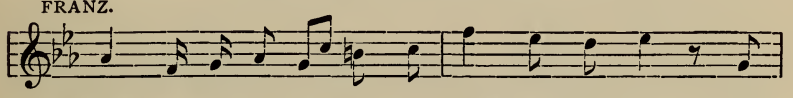
2 If a tone be prolonged, by the use of tied notes (see p. 26, s. 3), beyond the measure in which it first appears, it is not considered necessary to repeat the accidental before the tied note of the second measure, although some writers do so as a precaution against carelessness in reading.



3 **EXERCISE 13. Write, with the signature of the key of F and in the limits**
4 **of a single measure, the melodic minor scale of ♯g, ascending and descending, using the proper accidentals. With the signature of ♭D, in like manner, write the harmonic minor scale of d natural.**

c. Signatures of Minor Keys.

5 Minor keys have no true signatures, but are compelled to use
6 the signatures of their relative Major keys. Since this borrowed signature always falsifies one tone (the seventh of the scale being notated, thus, a half-step too low), this tone must, whenever used, be *restored* by an accidental before the note.



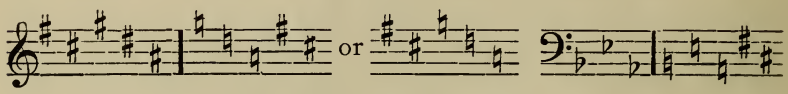
7 **EXERCISE 14. Write the signatures of the Minor scale of c, ♯c, d, ♯d, ♭e, e, f, ♯f, g, ♯g, ♭a, a, ♯a, ♭b, and b. Place upon the staff after each signature the note, with its accidental, which restores the scale out of the falsity of its signature.**

8 NOTE. While, with our present complex notation, to give minor scales their true signatures would present, it may be, more difficulties than advantages, it must be conceded that the use of a signature not its own, for a minor key, is a historical blunder quite analogous to the famous blunder of Handel in notating the Harmonious Blacksmith, which is in the key of E, with the signature of A, a proceeding that compelled him with major-scale music to do what every writer in the minor must even now do, correct the false signature by accidentals all the way through the piece. Such blundering in signatures was not uncommon

two hundred years ago, but that this error should be forced upon all writers and perpetuated in the writing of modern music is deplorable, even if unavoidable.

d. Change of Signature.

1 When in the midst of a piece of music the signature is changed, that part of the old signature which is no longer needed must be
2 cancelled when the new signature is written. If this change occurs in passing from one staff to the next, the *cancellation and new signature* appear first at the end of the old staff.

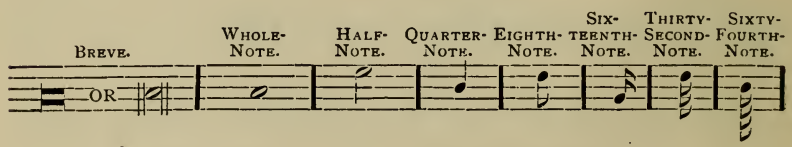


B. ON DURATION.

3 The different lengths of sounds and of silences required in
4 music are not many, and need but a simple notation. Two things only are necessary in this notation: First, that there be symbols to show accurately the *relative* duration of the sounds and of the silences to one another; second, that *an as nearly as possible absolute* value be assignable to some one of these symbols, from which the absolute duration of all may be determined.
5 The symbols used to notate duration of *sound*, which serve at the same time to notate pitch (see p. 8, s. 4), are called **notes.**
6 The symbols used to notate duration of *silence* are called **rests.**

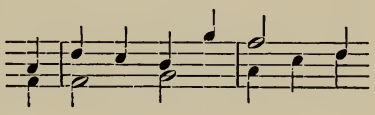
RELATIVE DURATION OF SOUNDS.

7 The notes at present in use, with their names, are displayed below; the longest at the left, each succeeding note representing half the duration in sound of its predecessor.

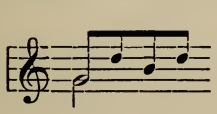


8 The parts of a note are called respectively the *head* (𝅝 or 𝅗𝅥), the *stem* (|), and the *hook* (𝅘𝅥𝅯). The hook is always written on
9 the *right side* of the stem, slanting toward the head.
10 Eighth-notes and notes of less value, when a number of them occur in succession, are often written with hooks joined as straight lines connecting the stems, thus:—

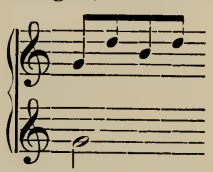
1 Stems of notes are written upward from the *right side* of the
2 head, or downward from the *left side.* When but one melody (see p. 61, s. 3) is written on the staff, up-stems are used for notes below the middle line, and down-stems for notes above the middle line; except where a number of notes have their hooks united, in which case the predominance of the notes above or below the middle line decides the stem-direction for all (see
3 illustration above). When two melodies are written simultaneously on the same staff, the upper melody uses up-stems; the lower, down-stems; and a note common to both melodies takes *both stems;* thus:—

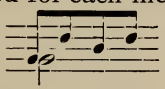


4 If the tone common to the two melodies has a different length in each, though beginning to sound at the same instant, either a single note is used with a head corresponding to the longer tone and stems indicating the divergence in length, as thus:



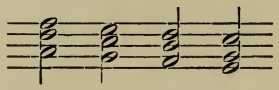
which equals



or separate notes are used for each melody, but they are crowded together to indicate that they begin sounding simultaneously, as thus:  the note of smaller value being written at the left.

5 Notes of different pitch beginning to sound simultaneously are always, if possible, placed in the *same vertical line;* for example:

1 When two or more such notes of *equal time-value* are written on the same staff, a single stem can suffice for all, the predominance of notes above or below the middle line determining the direction of the stem, thus:



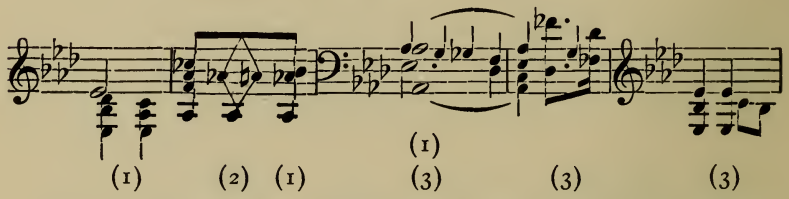
2 The rule just given, that notes which begin sounding simultaneously stand in vertical line, cannot be applied in several cases, namely:

3 1. Notes on adjoining degrees must stand a trifle out of line.

4 2. Notes of different pitch on the same degree must also be out of line.

5 3. Notes of different lengths requiring separate heads or stems must often lie out of line (compare s. 3 and 4, p. 21, on writings of a tone common to two melodies).

6 The following interesting extracts from a Jensen accompaniment (op. 21, no. 7) illustrate the above exceptions.



7 These exceptions, and occasionally others which are readily recognizable when occurring, make it necessary in reading music to determine in each case the moment of the entrance of a sound by the place it holds in *its own melody*, consulting to this end the value of the preceding note or notes in the measure.

DOTS.

8 If a note be followed by a dot, this adds to the note the time-
9 value of the next shorter note, thus: 𝅗𝅥. = 𝅗𝅥 + ♩ A second dot adds to the first dot half its value again, thus: ♩.. = ♩ + ♪ + 𝅘𝅥𝅯

A third dot (rarely used) adds likewise half the value of the preceding dot.

IRREGULAR NOTE-VALUES.

Occasionally sounds are wanted one-third, one-fifth, one-seventh, etc., the time-value of a given note. These are written with ordinary notes, either as a contraction, three notes taking only the time-value usual to two such, five the time of four, etc.; or as an expansion, two notes occupying the time that three such can ordinarily be completed in, three occupying the time of four, etc. The contracted or expanded group is indicated by a numeral, often accompanied by a curved line, thus:—

When the nature of the crowding or expansion is very evident, in many cases the numeral is omitted entirely, or, where the same effect is repeated a number of times, the numeral is used for one or two initial instances only. This omission is especially common in the case of the **triplet** (a crowding of three notes into the time-value of two such).

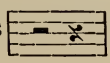
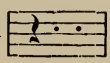
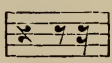
EXERCISE 15. Give the name and time-value of all the notes used in the examples of this book. Practice also on other printed music until perfect ease in determining time-values is attained. Especially search out and analyze all examples of contracted or expanded note-values.

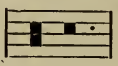
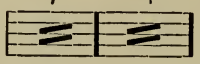
NOTE. The teacher is recommended to make a thorough test of the student upon this and the following exercise, since readiness in determining time-value is indispensable to the *reading of music*.

RELATIVE DURATION OF SILENCES.

The rests at present in use, with their names, are displayed below; read from left to right, each succeeding rest represents half the duration in silence of its predecessor.

A dot after a rest adds to it the time-value of the next shorter rest; a second dot adds again half the time-value of the first dot, etc.

Thus: equals  ; and  equals  ; etc.

The *whole-rest* is used to indicate a complete measure's (see p. 38, s. 7) silence, even when the measure has not the exact time-value of the rest. When several measures of silence occur, a group of rests may be used, calculating a whole-rest to each measure; thus,  equals seven measures' rest; or slanting lines may be written on the staff, and a figure indicating the number of measures be placed over it, thus:—  This latter is the more usual mode.

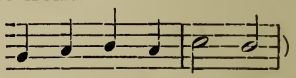
7 24

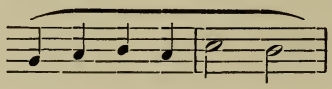
EXERCISE 16. Give the names and time-value of all rests found in the examples of this book. Practice also on other printed music until perfect ease in determining rest-values is attained.

DELIVERY, OR TOUCH.

Effects of **delivery** (on the pianoforte called effects of **touch**) occupy the border-land between sound and silence; since the same notes under different touch have slightly different time-values.

Legato (bound) notes are so to be played that each tone is prolonged to the instant of sounding the next.

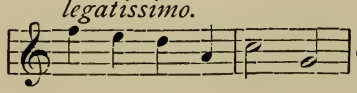
A succession of notes written for the piano, having no indication of touch (thus: ) is to be played legato. But the special sign of legato is a curved line, called the **slur, phrase-mark,** or **legato-mark,** the curve being drawn from the first to the last note of the passage *slurred* or *phrased*, thus:



Modern editors and writers phrase much more fully than was formerly the custom.

A **Legatissimo** passage is to have each tone prolonged until slightly *after* the next begins sounding. Its notation is the word itself written at the beginning of the passage in question. Thus:

legatissimo.

 equals

A **non-legato** passage (notated likewise by writing the words at the beginning of the passage) is to have each tone very slightly detached from the next, there being an instant's break of sound.

Such non-legato detachment should always be made at the end of a legato (slurred) *passage.*

[The result of a **slur**, then, is:—

1. To render a passage legato;

2. To slightly shorten the tone-value of the last notes slurred; and,

3. To, in certain cases, give additional accent (p. 34, s. 11) to the first note slurred.]

Staccato notes are to be played with yet more gap of silence between the tones. The notation is by **staccato-marks**, which are of two sorts; the *points* over and under notes (thus:) cutting off something more than half of the tone-value; or the *dots* (thus:), cutting off about half the tone-value.

A modified *staccato*, called **mezzo-staccato**, and notated by combining legato and staccato-marks (thus:), is to be played in such a caressing manner as to produce nearly the legato impression, yet plainly detached.

[A convenient fractional rule for staccato effects, which is modified, however, by considerations of rapidity and of general interpretation, is that the ' consigns to silence three-fourths of the note's value; thus equals ; the · consigns to silence one-half of the note's value; thus equals ; and the consigns to silence one-fourth of the note's value; thus: equals]

Legato passages for the piano, having tones to be made full and prominent, but not to be sharply struck (compare p. 32, s. 14), may have a short horizontal mark (thus:) drawn over the notes in question. The word **pesante** calls for still more weighty effect of the same sort.

Non-legato notes use for the same purpose the *mark and dot* (thus:).

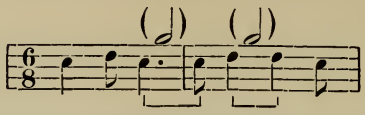
SPECIAL NOTATIONS.

THE TIE.

Under certain circumstances a single tone uses more than one note to express it. Thus, two notes are required for the notation

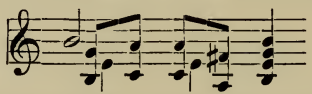
1. Of a tone longer than a given note, but not as long as a dotted note: ().

1 2. Of a tone that extends beyond the measure, or that lies partly in one and partly in another accent-group (p. 34) within a measure:

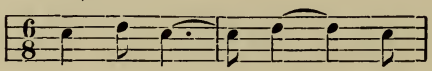


except when it begins on an accent, and *can be written as a dotted note*, thus:

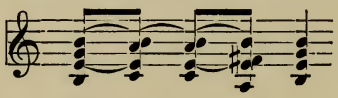
2 3. When such writing simplifies the notation:



3 The indication that the two (or more) notes represent but *one prolonged tone* is by use of the **tie**, a curved line, identical in writing with the slur. Thus is but *one tone, not two tones tied together* (see illustration just given, p. 25, s.13); and in the example—

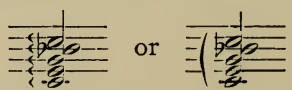


are *single tones;* so also the first four b's and the two pairs of tied e's in the following example are *single tones.*

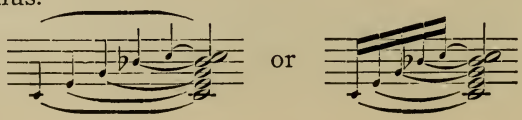


BROKEN CHORDS.

4 A series of tones struck rapidly in succession from lowest to highest, *but then continuing to sound simultaneously*, may be written in vertical lines, with the *roll-mark*, thus:



5 The broken-chord effect, especially when it is somewhat deliberate, is occasionally written in small arpeggio-notes, which are then connected by *ties* to a vertical writing in full-sized
6 notes. Thus:



1 On the pianoforte simultaneous broken chords may be made with right and left hand; thus:

2 If the single continuous roll is desired, care must be taken to make the roll-mark continuous, thus:

OCTAVE-ABBREVIATION.

3 A passage to be played in octaves may be written as a single melody, with the sign *coll' 8va* (compare p. 8, s. 7), signifying that both the melody as written and the octave above it are to be played; or, *coll' 8va bassa*, signifying that the melody and the octave below it are to be played.

PAUSE OR HOLD.

4 The sign 𝄐 calls for a halt in the progress of the music. Over or under a note it prolongs all the tones sounding at the moment
5 the note would otherwise end. Over or under a rest it prolongs
6 the silence. Over or under a bar (p. 38. s. 5) it detaches the music before the bar, by a silence, from that which follows.
7 No definite rule for the duration of a *hold* can be given, except that it conforms to some rhythmic unit (p. 34, s. 4) or group of units.

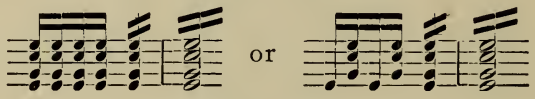
REPEAT-SIGNS.

1. *For single tones. The Tremolo.*

8 When the same tone, of short time-value, is to be repeatedly sounded throughout a measure or rhythmic group, the whole may be written as a single *note*, having straight hooks drawn across its stem sufficient in number to indicate the value of each
9 repetition-note. Thus:

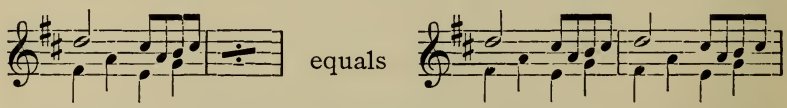
1 This effect, when *very rapidly done*, is called the **tremolo.** A simultaneous tremolo of several notes on the piano for the same hand, is played by striking alternately higher and lower tones.
2 Thus:

3 When there can be any doubt as to whether such simultaneous repetitions upon the piano are to be played as a tremolo or not, a portion of the effect is often notated in full, to serve as a model for the whole, e. g.:

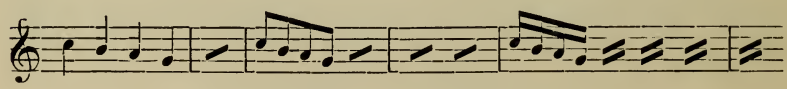


2. *For short groups of notes.*

4 When all the notes of a single measure, or portion of a measure, are to be repeated, a single slanting line, with a dot
5 above and below (÷), will suffice to indicate the repeat. Thus:



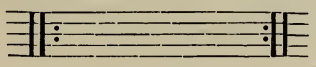
6 If all the notes repeated have the same time-value, the dots in this sign may be omitted, the single line being used if the notes are eighths or longer notes, while for notes of less time-value the
7 number of lines corresponds to the required note-value. Thus:



8 Occasionally, when such a repetition-group has but two or three tones of little time-value, the figures are written out in notes each of which would occupy the whole time, but with hooks attached to the notes in such a way as shall plainly indi-
9 cate the actual tone-values to be played and repeated. See the
10 corresponding writing of single repeat-notes. Thus:

3. *For longer repetitions.*

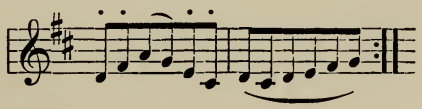
Any portion of a composition may be repeated by drawing a double bar (p. 53, s. 10) at its beginning and end, with dots after the first double bar and before the second. Thus:



When the repeat is from the beginning of the music, the first double bar and dots are not needed.

If in the repetition the last measure or two is to be excluded and others substituted, a horizontal line is drawn over the excluded measures, before the double bar, and the phrase *la prima volta* (1st time), 1ma, etc., or simply 1, is written; while over the substituted measures, after the double bar, a similar line and the phrase *la seconda volta* (2nd time), etc., appears. For example:

equals, for the first time:



but on the repeat:

If at the end of a composition it be desired to repeat some or all of the first part, the words *da capo* (from the beginning) [abbreviated D. C.] are used, with a designation of how much is to be repeated. For example, *D. C. al* 𝄐 means "repeat from the beginning to a double bar having over it a hold"; *D. C. al Fine* means "repeat from beginning to the word Fine (end)"; *D. C. al* 𝄋, "repeat to the sign."

If the repeat is not from the beginning, the expression *dal segno*, requiring repeat *from* the sign 𝄋, or *dal segno al segno*, "from the sign to the sign," may be used.

NOTE. N. B. The above paragraphs, as well as all the following material under Duration, do not purpose to be exhaustive. Only sufficient statements to fully classify

the notation-symbols can be presented. For the meaning of all words or signs used in music, but not given here, or stated but not explained, the student is referred to any standard Dictionary of Musical Terms. It should be insisted upon that every student have such a dictionary always at hand, and never allow a word or sign in the music he is studying to pass unexplained.

ORNAMENTATIONS.

The remainder of the special notations to be referred to are usually classed as *signs of ornamentation*, the effects for which they call being regarded as "graces" to the music.

There is a division of opinion among musicians as to the manner in which many of these signs are to be played; the issue being whether the grace-notes in question should take their time of performance from the note with which they are written, or from the note or rest preceding this. This division is in reality a conflict as to the purpose and value of ornamentation in music.

The theory which is historically the earlier, and was apparently universal in the days of Bach, and even later than Mozart, assumes that graces are, for the most part, a rhythmic as well as a melodic variation of the music to which the graces are added; the alteration of melody being heightened by the piquant irregularity brought into the rhythm.

It may be said in behalf of this theory that the music of the periods which used these signs most has a freedom of rhythm quite in accord with such a conception, while the musical instruments were then at a stage of development which would naturally give rise to such effects.

The contrary theory asserts that graces are but delicate adornments of music, disturbing neither the onward flow of rhythm nor of melody.

Inasmuch as classic writers have usually been fully committed to the one or the other theory, the use of graces which each composer makes must be studied in the light of his own history.

One admirable result of the conflict is, that modern writers, in order to express themselves unmistakably, are being forced to abandon most of the old signs, and write everything out in full. Moreover, the conception that grace-notes are the delicate traceries in music, causes composers to put the special ornaments based on this view, into smaller notes than the rest of the music, such notes to be played without disturbing the rhythmic onflow, and frequently also more lightly than the rest.

The principal signs to be found in classic and modern music are the *mordent* (𝆑), the *pralltriller* (inverted mordent, 𝆒), the

turn (∾) [look up use of accidentals with this sign], the *trill* or *shake* (~~~ or *tr*~~~), the *long* and *short appoggiatura*, the *double appoggiatura*, the *slide*, the *portamento*, the *tirata*, and the *nachschlag*.

1 For definition of these words, and instruction as to their performance, consult the dictionaries, or the judgment of teachers, *since there is no universally recognized authority in the matter.*

ABSOLUTE DURATION.

Tempo.

2 **Much** of the music written in the past and present has no exact, absolute time-value assigned to any given note, from which all others may be determined; for, within certain limits, musicians can easily recognize how fast or how slow a composition 3 should move. It is, however, customary to write at the beginning of a piece a descriptive word or two, which gives an ap- 4 proximately absolute time-value to the notes. This word or phrase is called a mark of **tempo**, or **movement** (see further 5 under Rhythm, p. 35). It announces either:—

6 1. The tempo alone; as *Lento*, *Adagio*, *Moderato*, *Presto*, etc.

7 2. The tempo and the character of the music; as *Largo*, *Grave*, *Andante*, *Maestoso*, *Animato*, *Vivace*, *Allegro*, etc.; or

8 3. The resemblance of the piece to some well-known form of composition, from which tempo and character are to be inferred; as *Tempo di Menuetto*, *Alla Marcia*, *Alla Polacca*, etc.

9 Derivatives of many of these words are in common use, as *Allegretto*, *Andantino*, *Prestissimo*, etc. Also, they are frequently modified by limiting words, as *Andante con moto*, *Adagio non troppo*, etc.

10 In addition to the tempo-mark there is often found a sign of absolute duration, namely, a note coupled to a figure which states 11 the *number of such notes that may be played in a minute.* Thus: 12 𝅗𝅥 = 69, or ♩. = 124. An instrument called a metronome has been invented with a pendulum which, being set according to a graduated scale, can be made to move any required number of swings per minute, and so indicate the absolute time-value of 13 the given note. Such a sign is, therefore, called a **metronome-mark.**

Modifications of Tempo.

14 But the expression of musical thought also demands a certain amount of flexibility in hastening or retarding the movement of 15 the music during the course of performance. Notation of these changes is likewise made by use of words set at the required

places about the music. For example; *più mosso*, *meno mosso*, *accelerando*, *stretto*, *stringendo*, *ritardando*, *rallentando*, *a tempo*, *Tempo Primo*, *doppio movimento*, *l'istesso tempo*, *tempo rubato*, *senza tempo*, etc.

NOTE. All the signs cited above are Italian words. Modern writers occasionally use for these purposes German, French, or English words; the tendency being for each musician to write in his own language. There is, however, such a complete acceptance of certain Italian words that they will undoubtedly always continue in use by writers of whatever nationality. This is decidedly desirable; for a notation to be perfect must be *fixed* and *universal*.

EXERCISE 17. Give the meaning of all the Italian words and other signs referred to in the preceding paragraphs on Duration.

C. ON FORCE (DYNAMICS).

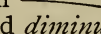
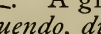
Notation of dynamics in music is of two distinct sorts:
1st. General expression of force.
2nd. Indications of *accent*, connected directly or indirectly with *rhythm*.

GENERAL DYNAMICS.

The sounds in music are of varying degrees of force, the music being or becoming louder, or being or becoming softer at one time than at another; part of the tones which sound at a given moment having, it may be, greater stress than the remainder, etc., etc.

The notation of these gradations in force is by the use of letters, words, or signs, placed in and about the music.

From softest to loudest, the letter-abbreviations in common use are: **ppp**, **pp**, **p** (*piano*), **mp** (*mezzo piano*), **mf**, **f** (*forte*), **ff**, and **fff**. The effect called for by any of these letters is assumed to continue until contradicted by some new sign.

A gradual increase of force is indicated by the word *crescendo*, *cresc.*, or by the sign  . A gradual decrease of force is indicated by the word *diminuendo*, *dim.*, or by the sign  . Both of these words are frequently modified, as *poco a poco cresc.*, or *molto dim.*, etc.

Sudden force on a single tone or chord (p. 61, s. 2) is indicated by **sf**, **sfz**, **fz**, ∧, >, < (all standing for the word *sforzando*). [Strictly, the > or < indicates an instantaneous *cresc.* or *dim.* But the pianoforte cannot accomplish this effect.] When a single tone thus emphasized decreases instantly to *piano*, the letters **sfp** are used.

A series of sforzando notes in a single melody may be indicated by the words *marcato*, *marcatissimo* (compare p. 25, s. 10); an entire passage thus emphasized by **rfz** (*rinforzando*). An

extremely heavy passage of sforzando effects may be marked *martellato.*

A number of words that primarily refer to *tempo* (see p. 31), are found so certainly to involve also a dynamic change that the accompanying sign of force is usually omitted, it being implied in the tempo indication. For example, the following words are commonly felt to have this double sense: *stringendo* (equals accelerando e crescendo), *rallentando* (equals ritardando e diminuendo), and *allargando* (equals ritardando e più forte).

EXERCISE 18. **Learn the meaning of all the words mentioned in the above paragraphs.**

RHYTHMIC DYNAMICS.*

The most valuable and constant use of gradations of force in music, is found in the expression of **rhythm.** The notation of force is therefore involved in the methods taken to announce rhythm.

Rhythms.

In order to understand rhythm in music, it is necessary first to grasp the meaning of rhythm in general. For rhythms are found in all the movements of life.

Rhythm may be described as follows:—

When the same things, or similar things, happen at regular intervals a sufficient number of times, there is established in the mind an expectation that they will continue to happen at the same regular intervals. To this feeling for recurrence we give the name **sense of rhythm**; to the recurrence which satisfies this feeling we give the name **rhythm.**

Abstractly stated, **rhythm is the division of time into regular successions of time-periods by the constant recurrence of identical or similar phenomena.**

This definition includes all rhythms; e. g., of the waves of the sea, the beating of the heart, the succession of seasons, as well as the rhythm of poetry and music. For the general characteristics of rhythm are the same everywhere, although the rhythms of nature are far more varied than those of art. Yet, in either case, it is by means of rhythm alone that we are able to see unity of design and to feel the joy or pain of anticipation. It is the presence in music of rhythm, manifested in its various

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* The utter confusion of text-books and dictionaries in the use of terms bearing on Rhythm, both furnishes the need of an apology for seeming to add to the confusion, and at the same time offers an excuse for a treatment of the subject which shall endeavor to use as few terms as possible, but define these carefully, and use them accurately.

ways, that gives to the sound the beauty of unity. Rhythm in music is the beating of its heart.

The Creation of Rhythms.

[N. B. An analysis of the *means of determining rhythms* must precede the study of *their notation;* for *rhythms exist whether put upon paper or not.*]

The basis of all musical rhythms is the division of time, as it passes, into regular successive segments, within which, once in so often, the rhythmic recurrence takes place. To these segments the name **time-units** (**beats** or **pulses**) may be given.

NOTE. For purposes of illustration *time-units* can be indicated in these paragraphs by even dashes; thus: — — — — — — — — — — — —.

A. The smallest rhythm to be found in music is the grouping of time-units by *twos* or by *threes.*

Thus: (— —) (— —) (— —) (— —) (— —) (— —) (— —) (— —)

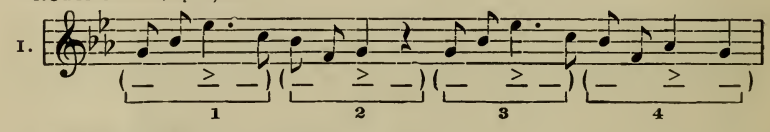
or (— — —) (— — —) (— — —) (— — —) (— — —) (— — —)

This grouping into a rhythm is accomplished by giving special importance to one of the units of each group. The important unit need not be the first unit of the group, but must, of course, be the same unit in each group.

To obtain such importance, the following methods are used:—

1st. Added stress, called **accent,** is laid upon the tones which begin the given unit of the group; e.g.:

RUBINSTEIN, op. 8, No. 2.



MENDELSSOHN.—SPRING SONG.

2d. Extra length often is given to the *accented tones.*

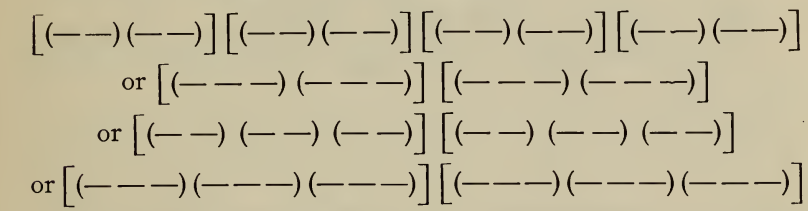
See all the groups of ex. 1, and groups 1, 3, 4 of example 2 above.

3d. Usually, the accented tones form one of the *principal chords* (p. 69, s. 7) of the key.

[N. B. Keep the distinction clear between a *time-unit* (*beat*) and a *tone* (*note*). There may be one or several tones to a time-unit, or one tone to several time-units. See example above. It is to the rate at which time-units follow each other that *tempo-marks* refer. Thus, a rapid succession of tones of small time-value may be found in music whose pulsation is slow enough to be marked Adagio (see Beethoven Sonata, Adagio, op. 2, no. 1, measure 25); or a Presto movement may contain passages of tones whose succession is decidedly slow (see same sonata, Prestissimo, after repeat)].

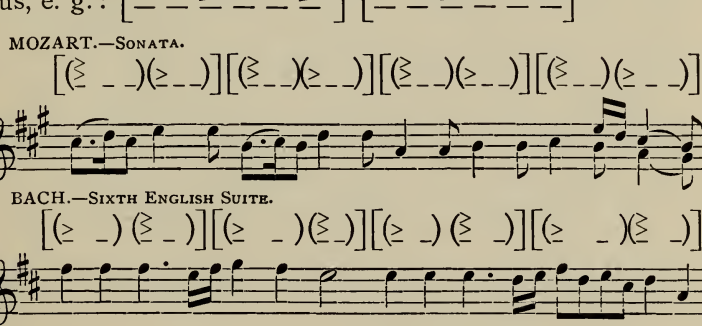
This form of rhythm may be called **Simple-Accent-Rhythm.** The accent of it need not be very pronounced, yet must always be definite enough to be felt.

B. The next larger rhythm is found by grouping the smallest groups again by twos or threes. Thus:



The combination is effected by still stronger accent upon the already accented tone of *that simple rhythm which is to be elevated above the others in order to group them.*

Thus, e. g.:

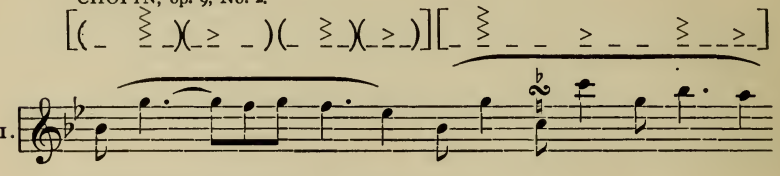


This form of rhythm may be called **Compound-Accent-Rhythm.** Even here the accents need not be very pronounced, being only sufficiently distinct to make evident the compound nature of the rhythm.

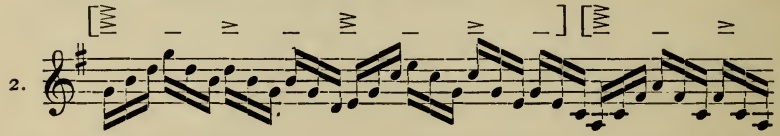
C. A still larger accent-rhythm is sometimes formed, combin-

ing the compound rhythms already described, by means of still
1 more emphatic accents. But these larger rhythms are open to a two-fold difficulty; first, that the mind cannot readily keep track of such complicated accentuations of group within group; and second, that the effort to hold to the rhythm may easily cause such a strong accentuation as to be in itself unpleasant.

CHOPIN, op. 9, No. 2.



BACH.—WOHLTEMPERIRTES KLAVIER, Book I, Prelude 15.



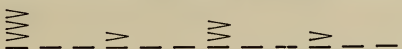
2 This form of rhythm may be called **Double-Compound Accent-Rhythm,** and is practically the limit to the use of accent as a means of grouping into rhythms: and even here only the
3 simplest double-compounds are available. Larger rhythmic groupings than this take other means of declaring themselves than this (see p. 51).

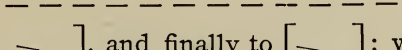
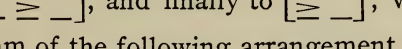
4 D. Other groupings into compound rhythms than those above given are quite possible, as, for example, a compound of five units (2+3, or 3+2), a compound of seven units (2+2+3, or
5 2+3+2, or 3+2+2), etc. These are, however, far more difficult to hold the mind to, and must be classed among irregularities of rhythm, such as, for example, the interpolation of a single group of one sort of rhythm to disturb the regular onflow of another rhythm. (See further, p. 45.)

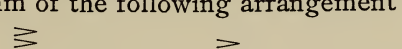
6 The groupings above given, and all *irregularities in rhythm*, in fact, irregularities in all musical effects, must be judged according to the special æsthetic purpose of the writer using them. Their province is always to create a sense of surprise, so that, in the last analysis, *their value depends wholly upon the universality of the laws from which they deviate.*

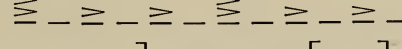
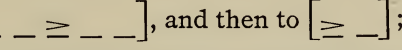
7 E.—N. B. The *tempo* of music has pronounced effect upon the expression of rhythm, slow movements giving opportunity for the appearance of that gradation of accent which makes compound rhythms, rapid movements obscuring the accentuations into simplicity of rhythm.

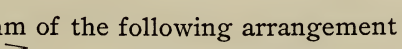
The process of rhythmic simplification, where the rapidity of music is increased, always consists in reducing successively the smallest groups to the place of time-units. Thus, a double-compound rhythm of the following arrangement

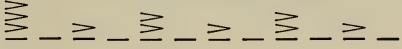


reduces to  , and finally to  ; while a double-compound rhythm of the following arrangement



reduces to  , and then to  ; and a double-compound rhythm of the following arrangement



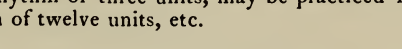
reduces at once to  ; etc.

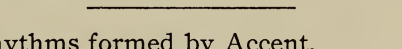
NOTE. This fact may be taken advantage of when studying complicated music in rapid time. Thus, for example, music which when played rapidly would be a simple rhythm of three units, may be practiced in slower tempo as a compound rhythm of twelve units, etc.

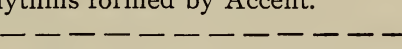
Scheme of Rhythms formed by Accent.

Time-Units: — — — — — — — — — — — — — — — — — —

Simple Accent-Rhythms.

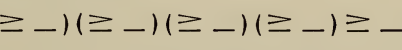
By twos: 

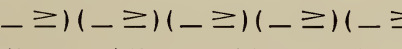
or 

By threes: 

or

Compound Accent Rhythms.

By twos: 

or 

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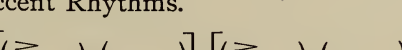
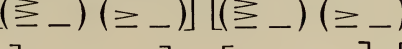
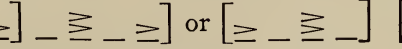
or 

or 

or 

1 By threes: [(≧ _) (≥ _) (≥ _)] [≧ _ ≥ _ ≥ _] in six possible arrangements.

[(≧ _ _) (≥ _ _) (≥ _ _)] [≧ _ _ ≥ _ _ ≥ _ _] in nine possible arrangements;

2 Double-Compound Accent-Rhythms; e. g.:

[(≧ _) (≥ _) (≧ _) (≥ _)] [≧ _ ≥ _ ≧ _ ≥ _] etc.

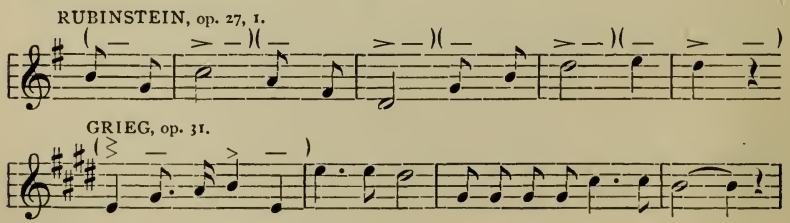
[≧ _ _ ≥ _ _ ≥ _ _ ≧ _ _ ≥ _ _ ≥ _ _ ≧ _ _ ≥ _ _ ≥ _ _] etc.

3 From this last example, one group out of the many arrangements the double-compound rhythm might take, it may be inferred how cumbersome the continuance of such groupings might be.

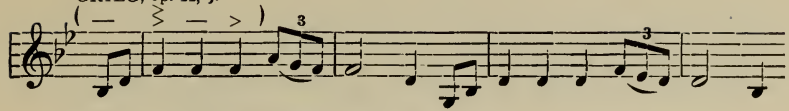
The Notation of Rhythms.

4 The dynamics of the rhythms just described has no complete
5 notation. Its partial notation is as follows: The place of the *strongest* rhythmic accent recurring throughout the composition is marked by a vertical line called a **bar**, drawn across the staff
6 *just before the accent.* It will be seen that when the music is in simple rhythm this serves as a notation for all the accents; but when compound rhythm is used the weaker accents are left unnotated.

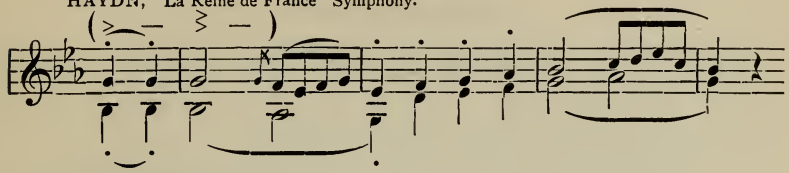
7 The bars, thus drawn, divide the music into regular sections, called **measures**; a measure having always the *time-value of one Accent-Group* (simple or compound), although the beginning and ending of the measure may not coincide with the beginning
8 and end of a group. In fact, a measure and a rhythmic group coincide *only when the first unit of the group takes the strongest accent.* In all other cases the rhythmic group is split by the
9 bar. Hence it is that a composition often begins and ends with an incomplete measure. E. g.:



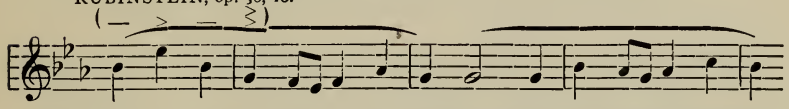
GRIEG, op. 22, 3.



HAYDN, "La Reine de France" Symphony.



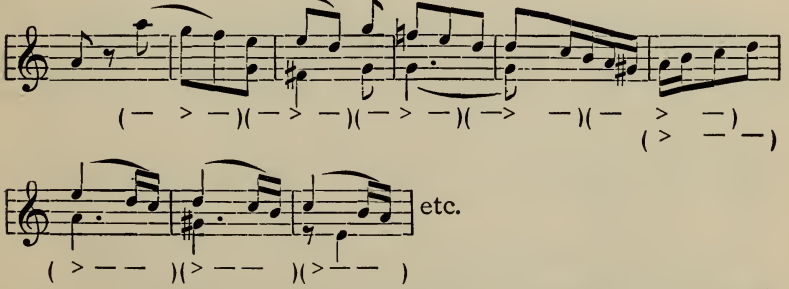
RUBINSTEIN, op. 36, 10.



EXERCISE 19. Draw in with a pencil the bars for the musical examples of the preceding paragraphs on rhythm.

Interchange of Group-Forms.

Since the chief value of a rhythm depends upon the regularity of the recurrent accent, and not so much on the place of the accent in the group, advantage is often taken of this fact in music, as in poetry, to change the group-form without altering the march of the accents. For example, in the Andante of the Beethoven Sonata, op. 26, the rhythmic group — > —, suggested by the first three notes, is so often apparently abandoned for the group > — — that one might regard the unaccented beginning note as a mere preliminary to the latter group-form, did not the former plainly assert itself in the sixteenth measure and following. The following extract from Mendelssohn's second Song Without Words illustrates this, where the shift in rhythmic grouping constitutes one of the special charms of the piece.



NOTE. It is this frequent shift of group-form that renders the present mode of marking off measures by bars *before the strongest accents* far better than any

attempt to indicate the rhythmic groups themselves to the eye. While, on the other hand, it is necessary that a writer or interpreter of music should perceive in every instance the group-form at that moment in use.

EXERCISE 20. Indicate in pencil the time-units and rhythmic groups for all the musical examples not already having them, from p. 18 onward.

Time-Signatures.

When the Accent-Rhythm of music is simple the music is written in what is called *Simple Time.* This fact is announced by the **time-signature,** a fraction placed on the staff after the key-signature, at the beginning of the music,* the denominator of the fraction telling the value of note which could occupy a time-unit, the numerator telling the number of units to each measure.

When Compound Accent-Rhythm is used, the Time is called *Compound Time.* The numerators of all regular compound signatures are multiples of two or of three.

Duple Time.

Music, the measure of which contains two units, or its square, is said to be in *Duple Time.* The signatures of duple time in common use are:

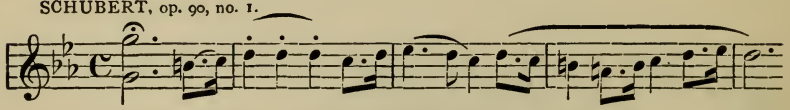
Simple Duple Time, $\frac{2}{2}$, $\frac{2}{4}$, $\frac{2}{8}$.

Compound Duple Time, $\frac{4}{2}$, $\frac{4}{4}$, $\frac{4}{8}$.

[A common substitute for $\frac{2}{2}$ is the sign ¢. This must be distinguished from the equally common sign C, without the vertical line, which is usually a substitute for $\frac{4}{4}$. Consult dictionaries under the head, Alla Breve, for further statement of the meaning of these signs.]

SCHUMANN, op. 21, no. 3.

SCHUBERT, op. 90, no. 1.



* Note that the *time-signature* is written only once, at the beginning of the music, or at a change of time in the music, while the *key*-signature is repeated on each new staff.

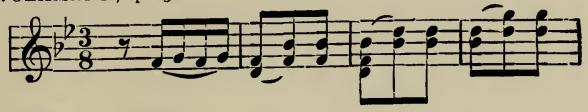
Triple Time.

Music, the measure of which contains three units or its square, is said to be in *Triple Time.* The signatures of triple time in common use are:

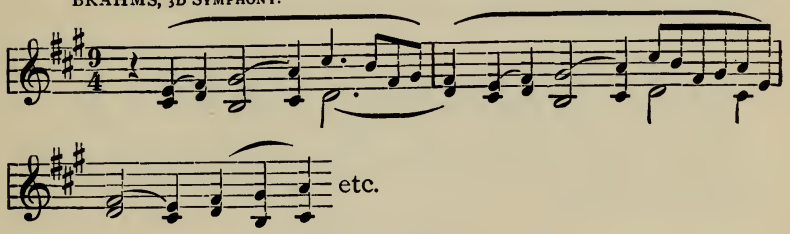
Simple Triple Time, $\frac{3}{2}$, $\frac{3}{4}$, $\frac{3}{8}$.

Compound Triple Time, $\frac{9}{4}$, $\frac{9}{8}$, $\frac{9}{16}$.

VOLKMANN, op. 63.



BRAHMS, 3D SYMPHONY.



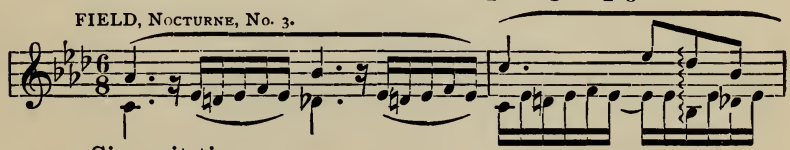
Mixed Time.

Music, the measure of which contains the multiple of *three units by two*, has sometimes been classed under the head of duple, sometimes under the head of triple time. A more exact name would be *Mixed Time.* The signatures of mixed time in common use have as numerator either 6 (threes combined by twos), or 12 (threes combined by twos and by twos again). They are:

Compound Mixed Time, $\frac{6}{4}$, $\frac{6}{8}$, $\frac{6}{16}$.

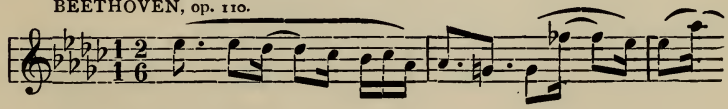
Double-Compound Mixed Time, $\frac{12}{4}$, $\frac{12}{8}$, $\frac{12}{16}$.

FIELD, NOCTURNE, No. 3.



Six-unit time.

BEETHOVEN, op. 110.



Twelve-unit time.

To avoid ambiguity, that form of mixed time which is compounded with *two* for the simple group (the multiple of *two units by three*), *is never given its true signature*, but takes advantage of the effect of tempo on rhythm (see p. 37, s. 1) to use a simpler form. That is, $\frac{6}{\cdot\cdot}$ *never means twos combined by threes*, but always as stated on p. 41, s. 7. Thus, with twos as the simpler grouping, instead of $\frac{6}{8}$ (2×3) the signature would be simplified to $\frac{3}{4}$; instead of $\frac{12}{8}$, the signature would be simplified to $\frac{6}{4}$ (2×3×2), or to $\frac{3}{2}$ (2×2×3).

NOTE. An interesting exception to the usual simplified signature is the Concert Etude by Thalberg, called "Ondine," signed $\frac{12}{8}$ instead of $\frac{6}{4}$.

HUMMEL, op. 11.

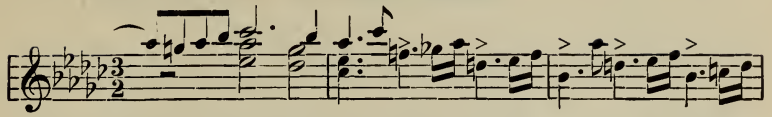
etc.

Six-unit time, of twos grouped by threes—time-signature *simplified* from $\frac{6}{8}$.

MENDELSSOHN, PRELUDE, op. 35, No. 6.

Twelve-unit time, of twos grouped by threes—time-signature *simplified* from $\frac{12}{8}$.

BACH, PRELUDE VIII. Well-Tempered Clavichord.



Twelve-unit time, of twos grouped by twos, then by threes—time-signature *twice simplified* from $\frac{12}{8}$.

Double-Compound Time-Signatures are not often found. Even when double-compound rhythm is in use, the signature is sometimes simplified. One occasionally meets with signatures having 12, 16, 18, or 24 units indicated in the numerator. When there are eight units in the whole group the signature is almost universally $\frac{4}{?}$. But see the Bach example, p. 36, where the signature is $\frac{24}{16}$.

Irregularities of Time.

1. *Irregular Time-Signatures*, corresponding to the irregular groupings spoken of on p. 36, D, do not reveal the order of the simple groups. Thus, $\frac{5}{4}$ might be 3+2 units or 2+3 units; $\frac{7}{4}$ might be 2+2+3, or 2+3+2, or 3+2+2 units. The simple groups, therefore, must be detected by the value of the notes in the music, their mode of writing (p. 55), and by general dynamic signs.

2. A not uncommon rhythmic device, often very beautiful, is to accompany a compound-duple time with a mixed time, the accents coinciding so as to bring the simple groups into a triplet effect of three notes against two. Thus:

MENDELSSOHN, SONG WITHOUT WORDS, No. 20.

etc.

The time-signature given with this example is that of the melody $\frac{3}{4}$. The true time-signature for the accompaniment is $\frac{9}{8}$.

This complication is found somewhat more rarely with three notes against four, or four notes against five.

CHOPIN, ETUDE. (No. 25, Peters Edition.)

The true right-hand signature for the example is $\frac{6}{4}$; left-hand $\frac{4}{4}$. See also the familiar Fantasie Impromptu, Chopin, where the slow tempo-signature of the right hand would be $\frac{8}{8}$; of the left hand $\frac{12}{8}$.

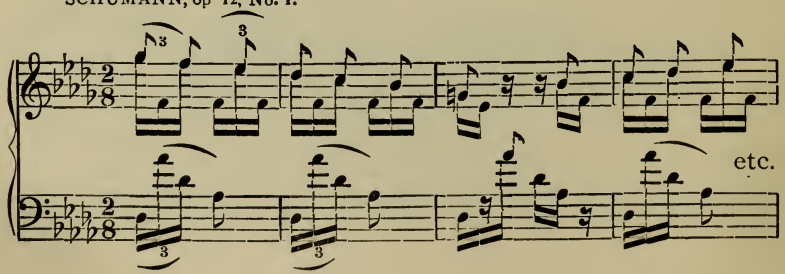
3. Instances are also found where the time-units coincide, but the rhythmic accents differ. The familiar example of these from Mozart's Don Juan, and several others, are cited in Grove, Vol. IV, p. 121.

Two beautiful and well-known examples are the following:

CHOPIN, op. 25, No. 2.

In slow tempo the time-signature of the right-hand in this example would be $\frac{12}{8}$ ($3\times2\times2$); of the left-hand $\frac{6}{4}=\frac{12}{8}$ ($2\times3\times2$). In rapid tempo this simplifies into two parts to the measure.

SCHUMANN, op 12, No. 1.



The right-hand signature of this would be $\frac{3}{8}$ (from $\frac{6}{16}$ (2×3)); the left-hand $\frac{6}{16}$. In seeking for a common signature, Schumann chose $\frac{2}{8}$, thus insisting upon the triplet effect of the left hand, the regular pulsation of which, against the prominent, almost overpowering, simplicity of the melody in $\frac{3}{8}$, constitutes the greatest charm of the music.

In all the examples given above, the rhythmic irregularity continues throughout the composition using it. Yet, because of the unrestful feeling caused by such continued fightings of time, composers are more apt to use them as occasional means of variety or climax.

NOTE. It is an interesting fact that in the examples just cited, Chopin and Schumann have actually been charged with faulty notation (see Pianoforte Playing, by Christiani, pp. 86–87), a charge that shows evident lack of appreciation of the essential though subtle beauty of the compositions.

4. Still other irregularities in time are occasionally met with. They are always either an irregularity of the simple groups as against regularity of accents (e. g., irregular crowding of a three-unit group into the place of a two-unit, or expansion of a four-unit group to fill the time of a six-unit group) ; or they are a regularity of unit-succession, but an irregular accentuation (e. g., a three-unit measure coming unexpectedly after a succession of two-unit measures, or a nine-unit measure inserted in the midst of six-unit time). Such freaks of time are not hard to understand when they occur, but always require special æsthetic justification. Some interesting examples of them may be found in Ferdinand Hiller's "Studies in Rhythm," op. 52.

Grammatical and Rhetorical Accents.

The accents which are essential to regular rhythmic groupings may be called *grammatical accents*, to distinguish them from those added, and often irregular, stresses which are used to produce unusual or characteristic rhythmic effects. These may then be called *rhetorical accents*. They are *additions* to the regular accent-rhythms, and in no sense substitutions for them.

SYNCOPATION.

One of the most frequently used and most interesting of these added effects of rhetorical stress is called **syncopation.** This is an apparent displacement of the grammatical accent by giving greater importance to what would else be unaccented.

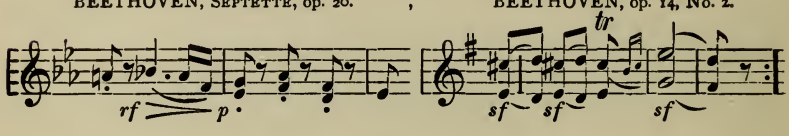
It may be accomplished—

1. By continuing a tone from the unaccented part of a measure over the time of the regular accent:

ROSSINI, STABAT MATER.

2. By a sforzando on a note not regularly accented:

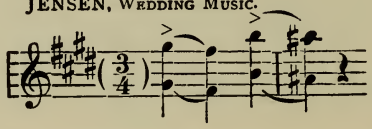
BEETHOVEN, SEPTETTE, op. 20. BEETHOVEN, op. 14, No. 2.



The sforzando is often written also in the previous case.

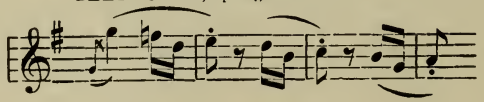
3. By slurring from the weakest (unaccented) part of the measure to the strong one:

JENSEN, WEDDING MUSIC.



unless the note at the regular accent is the longer, or is given a sforzando-mark.

BEETHOVEN, op. 14, No. 2.

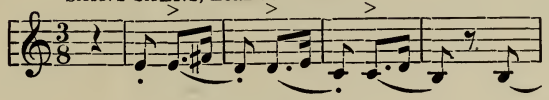
Thus  is **not** syncopated.

4. By introducing a rest at the regular accent:

JENSEN, WEDDING MUSIC.

5. By use of longer tone-values on the weak parts of the measure:

SAINT-SAËNS, LYRE AND HARP.



Although this apparent displacement is exceedingly common, and often very beautiful in its occasional and irregular use, the essential nature of the syncopation is best seen in its *rhythmic use.* This consists in the imposing of a new regular accent-rhythm upon the old, with the accents of the syncopation-rhythm always or partially where the main rhythm is unaccented, and the unaccented parts of the syncopation-rhythm where the original accents should come.

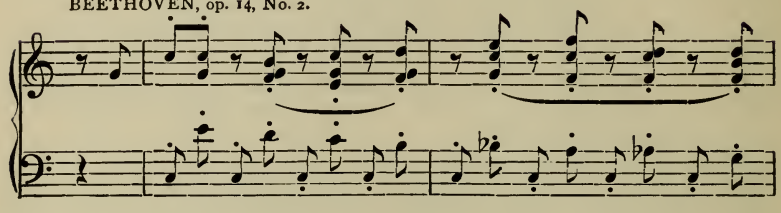
To be of value, this added rhythm must be continued, on the one hand, long enough to command recognition as a rhythm; and, on the other, not so long as to supplant the old rhythm, and thus cause an actual change of time. The beauty of the device lies in the allegiance of the mind to the old rhythm, which persists against the insistence of the new, and compels its final submission.

NOTE. Rhythmic syncopation produces the same effect in rhythm that the organ-point (p.173) does in harmony.

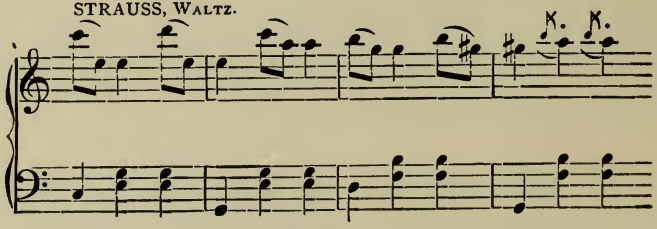
Since rhythmic syncopation is in many cases accomplished by the first or fourth of the means spoken of above, and since these means leave no way, except by the memory, to preserve the feeling of the original rhythm, it becomes imperative, when such a syncopation is long continued, to either frequently restore for a moment the original rhythm [This restoration is usual at the cadence (p. 51, s. 16 *et seq.*).]; or to continue the original rhythm all the time in part of the music; or both.

BEETHOVEN, op. 27, No. 2.

BEETHOVEN, op. 14, No. 2.



STRAUSS, Waltz.



MODEL.

Syncopation.

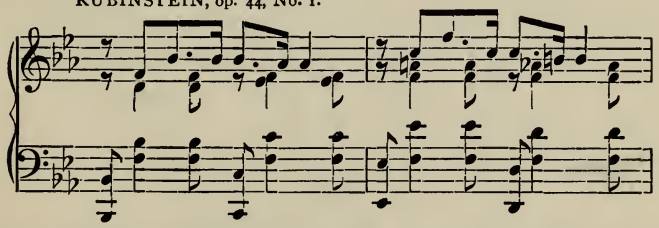
Orig. Rhythm.

SCHUMANN, Concerto, op. 54.

1 Note. Schumann is especially fond of using syncopation-rhythms long continued, without any recourse to the original accents, trusting that the subtle power of the original rhythm will continue to be felt, although it is not once
2 asserted in sound. Unfortunately, his trust has betrayed him to the accusation of writing music incorrectly in this particular also. (See Christiani, pp. 79–85, 91, 92.)

3 A very beautiful intermittent syncopation is often found in the accompaniment of a melody, where the strongest accents of a rhythm are retained, but the syncopation regularly overthrows the weaker accents.

RUBINSTEIN, op. 44, No. 1.



4 Note. Brahms is a notable exponent of the modern fondness for syncopa-
5 tion, both irregular and rhythmic. He is particularly fond of playing the two sorts of mixed time (with equal time-units, but opposing accents, as, e. g., $\frac{6}{8}$ and $\frac{3}{4}$) against each other.

CHARACTERISTIC RHYTHMS.

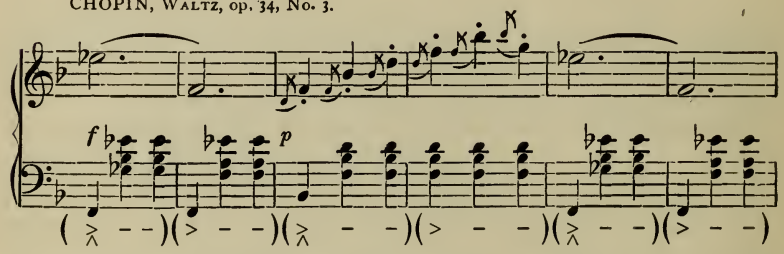
6 The other systematic use of rhetorical accent, beside syncopation, is in the *strengthening* of grammatical accents to produce
7 characteristic effects, such as dance- and march-rhythms. This extra stress is usually aided by combining all the means of producing rhythm already discussed (p. 34, s. 8 *et seq.*), and also by the

use in melody or accompaniment, or in both, of a rhythmic model
1 for the measure. The model determines the lengths of tone and the accents, and is itself often conveniently called the "rhythm" of the piece, since it always announces the rhythm, as well as something in addition.

2 The nature of a dance or a march makes the extra stress from the combination of rhetorical and grammatical accents helpful
3 and agreeable. In other kinds of music such marked accent, so regularly and often recurring, would be monotonous and unpleasant.

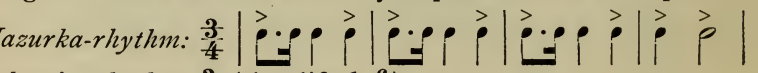
4 A peculiarity of the waltz is, that the rhetorical accent, in many cases, is felt most strongly at the beginning of *alternate*
5 *measures;* this corresponds to the actual step in dancing. The *true* measure-formation (see p. 38, s. 5 and 6) of such waltzes would therefore be $\frac{6}{4}$.

CHOPIN, WALTZ, op. 34, No. 3.



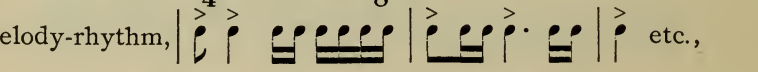
6 Several dance-rhythms have rhetorical accents both joined to
7 the grammatical accents and in syncopation. For example:

8 *Mazurka-rhythm:* $\frac{3}{4}$



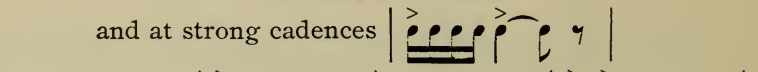
9 *Polonaise-rhythm:* $\frac{3}{4}$ (simplified $\frac{6}{8}$):

Melody-rhythm,

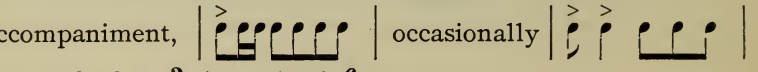


etc.,

and at strong cadences



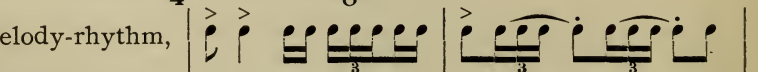
Accompaniment,



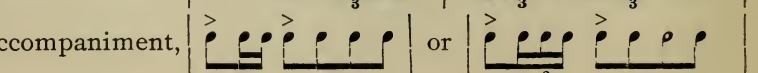
occasionally

10 *Bolero-rhythm:* $\frac{3}{4}$ (simplified $\frac{6}{8}$):

Melody-rhythm,



Accompaniment,



or

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Note also that the

Minuet ($\frac{3}{4}$) has slight rhetorical accent on third beat.

Bourrée ($\frac{4}{4}$) has slight rhetorical accent on fourth beat.

Sarabande ($\frac{3}{2}$, $\frac{3}{4}$) has rhetorical accent on second beat.

Most other dances, and the march, simply strengthen the grammatical accent.

Interpretation.

No notation of duration or force has ever been devised subtle or complete enough to cover all those shades of expression which lie potentially in any good composition. The general intent of the music, grave or gay, passionate or pleading, may be hinted at in a crude way by word or phrase here and there upon the page; for example: *con espressione*, *dolce*, *dolente*, *vivace*, *con fuoco*, *amabile*, *grazioso*, *appassionato*, *maestoso*, and many others.

But beyond this is the something which appeals to the nature of the musician, who then out of his own soul has to develop and complete the expression. This is the art of interpretation, and the great player, like the great actor, is he who can most completely utter the fulness of the thought which lay in the original conception. A perfect interpretation can, indeed, sometimes bring forth more from the music than the composer imagined, but never less.

The delicate accentuations which are supplemental to the written page are sometimes called **Pathetic Accents.** It is upon these that the individuality of an interpretation largely depends. One of the problems of notation which a composer must decide in every instance is, as to how completely he shall write out indications of expression: that is, conversely, how far he can safely leave a passage to the sense of the musician for its interpretation, since, in any case, there is much that must be unwritten.

On the side of the player, general condemnation is given to one who insists on an interpretation which disregards the marks of the composer's intention; whereas considerable variation in unwritten effects may be allowed.

EXERCISE 21. Look up the meaning of the expression-marks used above.

Cadence-Rhythms.

Rhythmic groupings larger than the accent-rhythms already presented, are accomplished by means of what is called the **cadence.**

This is a special use of harmony and melody, in order to pro-

duce a sense of restfulness at the end of a strain of music. Its complete discussion, therefore, belongs to the study of harmony.

As a rhythmic-harmonic device, a cadence consists of two parts:

1st. A *restful accent-chord* (p. 110, s. 9), which is the *last chord of the cadence-group.*

2nd. Chords preceding that, which lead naturally and, as nearly as possible, inevitably into it.

Cadence-Rhythms present nothing new under the head of dynamics, and involve notation in but a slight degree. They need, therefore, only such statement here as shall make clear their connection with accent-rhythms. This may be given as follows:

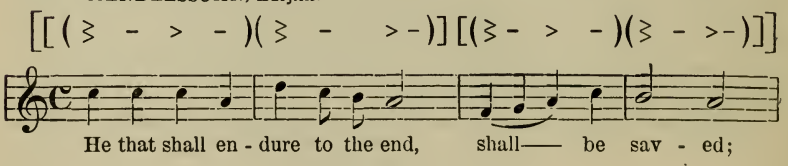
A. **Simple Cadence-Groups** are formed by uniting accent-rhythms by twos or by fours, or *only rarely* by threes or by fives. Simple accent-rhythms are apt to form into larger groups, compound accent-rhythms into smaller. The grouping is effected by the cadence which ends the group.

WAGNER. GŒTTERDÆMMERUNG.

B. **Compound Cadence-Groups** are formed by uniting simple cadence-groups, usually by twos, into the larger rhythm. The grouping is effected by having the cadence which closes the compound group more assertive (stronger) than the others.

NOTE. Concerning the strength of cadences, see p. 110, under Harmony.

MENDELSSOHN, ELIJAH.



C. **Double-Compound Cadence-Groups** are formed by uniting compound cadence-groups, by twos, sometimes by threes, to form a group which is felt to be musically complete. Usually a double-compound cadence-group is sufficient to completely express a musical thought. It is then called a **Period.**

HAYDN, SONATA. (No. 8, Peters Ed.)
Presto.

NOTE. Familiar instances of six-cadence periods may be found in all hymn-books; e. g., Toplady, by T. Hastings; Gethsemane, by R. Redhead; and Regent Square, by H. Smart.

N. B. A distinction is to be made between the Double-Compound Cadence-Group and the Period.

The **Period** is *a complete rhythmic utterance of a musical thought.* A Double-Compound Cadence-Group is almost always a Period. But some musical thoughts can be framed within the limits of a compound, or even of a simple cadence-group. These shorter periods are somewhat exceptional, but not at all abnormal. A careful observance of this distinction is essential to a correct understanding of the rhythmic structure of music.

D. Periods are combined by the same general law of rhythmic groupings into what are called **Musical Forms.**

The number of different forms obtainable by the application of this law is so great, that actual study of them is usually confined to the mastery of those which, by use, have received so general approval as to win a name and permanent place in music-literature.

Notation of Cadence-Rhythms.

The only notation-symbol that is connected with Cadence-Rhythm is the **double bar:** . This is drawn at the end of a composition or of some Cadence-division thereof. Since it is based on the rhythmic group, and not on the

measure as such, it frequently comes in the middle of a measure, and is not to be confounded with the measure-bar.

Often in hymn-tunes a single broad bar, which is a modified double-bar, is drawn at the close of each simple cadence-group (sung to a line of verse). The laws for its placing, therefore, are the same as for the double-bar.

SCHEME OF RHYTHMS.

Simple Accent-Rhythms=time-units by *twos* or *threes*.

E. g.: (_ ≥ _)

Compound Accent-Rhythm=simple rhythms by *twos* or *threes*.

E. g.: (_ ≥ _ _ > _ _ > _)

Double-Compound Accent-Rhythm=compound-rhythms by *twos* or *threes*.

E. g.: (_ ≧ _ _ > _ _ ≧ _ _ > _)

Simple Cadence-Group=accent-rhythms (simple or compound) by *twos* or *fours*.

E. g.: [(_ ≥ _ _ > _)(_ ≥ _ _ > _)]

Compound Cadence-Group=simple cadence-groups by *twos*.

E. g.: [[(≥ _ > _)(≥ _ > _)] [(≥ _ > _)(≥ _ > _)]]

Double-Compound Cadence-Group=compound cadence-groups by *twos* or *threes*.

E. g.: [[[(_ > _)(_ > _)(_ > _)(_ > _)] [(_ > _)(_ > _)(_ > _)(_ > _)]]

[[[(_ > _)(_ > _)(_ > _)(_ > _)] [(_ > _)(_ > _)(_ > _)(_ > _)]]]

Musical Forms (of many sorts)=combinations of periods.

EXERCISE 22. Exercises under rhythm should be twofold: 1st. Exercises under rhythmic analysis; the teacher to play numerous compositions, the pupil to determine the accent-rhythm and the cadence-rhythm of the composition, the time-signature in slow time, in fast time, all syncopations and other rhetorical accents, etc.; 2nd. Exercises in musical dictation; the

teacher to play, repeatedly, if need be, a melody, and the student to be required to give a complete and accurate notation for it. The value of such drill can hardly be exaggerated.

Effect of Rhythm on the Writing of Notes and Rests.

The writing of notes and rests is based, not on the rhythmic group as such, but upon the measure and its divisions. For this purpose distinction is made between *strong* and *weak* parts, as follows: The initial accent of a measure is strongest, the other accents being relatively weak or strong, as in the rhythmic groups. Accented units are strong as compared with unaccented, and the beginning of a unit is strong as compared with the remainder of it. In triple time the second unit is stronger than the third. The largest measure-divisions in compound time are from strong accent to strong accent; the smaller divisions are from accent to adjoining accent.

RULES.

I. A tone or silence filling a *measure*, a *measure-division*, or a *time-unit*, is to be written in a single character.

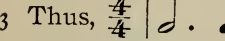
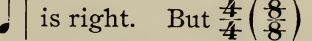
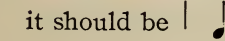
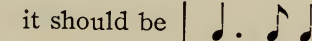
Exceptions. 1. When the prolongation is equal to five, seven, or nine time-units.

2. A measure-division of three-eighths is usually rested 𝄽 (not 𝄽·).

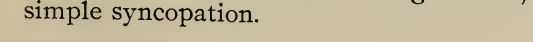
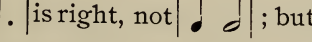
3. When a tone written by tied notes simplifies notation.

See p. 26, ss. 2 and 3.

II. A tone that begins on an accent and passes a measure-division, is to be written as a single character *only when* the latter is a dotted note, and passes no stronger accent than the one on which it began.

Thus,  is right. But  is wrong; it should be  . And is wrong; it should be  .

III. Syncopation-tones that pass an important measure-division should not be written as single notes, except in case of very simple syncopation.

Thus,  is right, not ; but  is usual.

IV. Notes of small value stroked together (i. e., with hooks joined) should not carry the stroking beyond a measure-division.

1 When as many as four of the notes stroked come within a time-unit, usually the stroking does not pass the unit-limit. E. g.:

2 A single stroked note of smaller value than the remainder, turns its extra stroke toward the dotted note with which it combines, or, if no dotted note is present, toward the other notes in the same time-unit.

E. g.: $\frac{3}{8}$ | ♩.♪♩ | and | ♩♪♩. |; but $\frac{6}{16}$ | ♩𝅘𝅥𝅯♪. |.

3 V. A silence longer than a time-unit, that continues beyond an accent, or does not fill a measure-division, should not be written as a single rest.

Thus, $\frac{6}{8}$ | ♩𝄽♩ | should be | ♩𝄾𝄾♩ |; and
$\frac{3}{4}$ | 𝄻 ♩ | should be | 𝄽 𝄽 ♩ |.

4 *Exception.* Rests of small value *beginning* with the accent, which thus avoid an indistinct notation.

E. g.: $\frac{6}{8}$ | ♪𝄾𝄾𝄽 𝄾♪ |; better than | ♪𝄾𝄾𝄾𝄾𝄾♪ |.

5 EXERCISE 23. Re-notate the exercises under Mixed Time, pp. 41-43, with different signatures, changing $\frac{6}{8}$ to $\frac{3}{4}$, $\frac{3}{4}$ to $\frac{6}{8}$, $\frac{12}{16}$ to $\frac{3}{4}$, $\frac{6}{4}$ to $\frac{12}{8}$, $\frac{3}{2}$ to $\frac{6}{4}$ and
6 to $\frac{12}{8}$. Perform the same re-notation of other printed music until the effect of rhythm on notation is fully mastered.

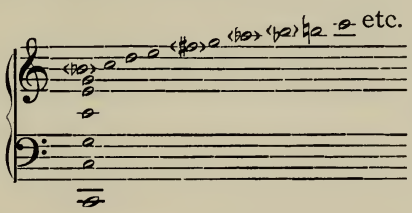
D. ON TIMBRE, OR COLOR.

7 **Timbre**, or **Color**, often called **Quality**, is that characteristic of musical sounds which makes the violin-tone differ from the flute-tone, the human voice from the trumpet, etc., although in
8. pitch, length, and force the sounds uttered be identical. A thorough understanding of this would require a complete study
9 of acoustics, the physical basis of sound. For the purpose of musical judgment and knowledge of color-effects, the following statements may be sufficient.

COLOR IN A SINGLE TONE.

What is ordinarily recognized as a single tone is, almost without exception, in reality a composite. The composite consists of either the whole or some portion of the following series, namely, a lowest sound, called a **fundamental,** which is the only pitch we usually notice, and after which we name the tone; and, in addition, a large number of higher sounds, called **overtones, upper partials,** or **harmonics,** which are related to the lowest, as, in the example below, the higher tones are to the tone C. The complete composite tone is called the **Harmonic Chord of Nature.**

The Harmonic Chord of Nature for C, carried up as far as c^3.



The bracketed tones differ appreciably from the pitch notated.

Under usual circumstances the fundamental is by far the loudest sound, the others rapidly decreasing in volume as the series ascends. The difference in color which the same tone has when produced on different instruments, is due either to the presence or absence of certain of these upper partials (i. e., to the completeness of the composite), or to variation in the force of some of the partials. Instruments which have few and low upper partials predominating, give a smoother tone, while instruments which have many and high partials predominating, give a more incisive tone.

Educating Influence of the Harmonic Chord.

A large number of the laws of simple harmony and of melody are based on the unconscious education of the ear by the Harmonic Chord of Nature. That is, practical musicians have recognized effects of harmony as good that already appear in miniature in the Harmonic Chord. It must, however, be remembered that the moulding power of the chord has been historically, and *must be practically*, limited by the sensitiveness of the *unaided* ear to harmonic effects in the chord and in music. Attempts to justify rules of harmony from the presence in the Harmonic Chord of extremely high and feeble partials, must be fallacious. The judgment of musicians as to color-effects is almost invariably instinctive. The thing they pronounce good

will later be demonstrated to be so, but they cannot tell why at the time.

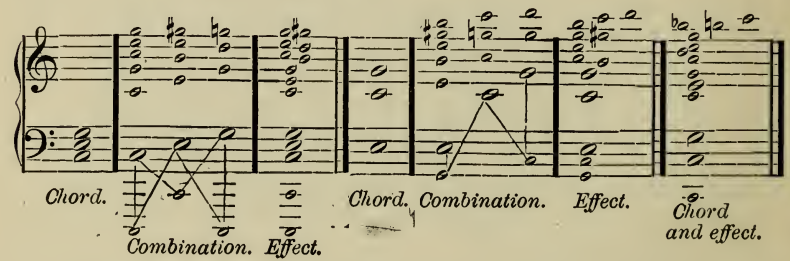
1 NOTE. For example, this consideration explains the satisfaction once felt in the sounding of bare fifths (p. 62, s. 4) even in a final chord; while the greater sensitiveness of later musicians calls for a third (p. 75, s. 3) in the chord.*

COLOR IN COMBINATIONS OF TONE.

2 When tones are combined in chords, since each tone is a composite, the chord as a whole produces a new color which varies greatly according to the actual tones used, the color of each sin-
3 gle tone, etc. This is the more complicated, because a chord actually creates certain tones (**resultant tones**) lower than any of the fundamentals in the chord (i. e., sounds which were not present in any single composite tone).

4 The smoothness or harshness of a chord, however, is found to depend upon the same general characteristics as in the case of a single tone.

5 Thus, where the actual tones of a chord coincide with the lower partials of its bass (p. 74, ss. 8, 9), the lower partials of the other parts of the chord will coincide with further partials of the bass, and the effect is smooth.



6 Where the upper tones of a chord do *not* lie in the Harmonic
7 Chord of its bass, the effect is harsher. Also, the greater the distance from one chord-tone to another, and, to a limited extent,† the higher the pitch of the chord-tones, the smoother is the effect.

8 Composers are able to take skilful advantage of this fact, either to increase a feeling of unrest in their music, or to create a delightful sense of restfulness.

---

9 * The stress laid here and elsewhere in this text-book on the educating influ-
ence of the lower tones of the Harmonic Chord, does not overlook the fact that
10 equal temperament falsifies slightly the findings of the chord. But all the effects
which are based on the chord would be only the more delightful, did we use a
11 pure temperament. The deviation therefrom in practice is defensible on other grounds, although it occasions a real loss in the color of our music.

12 † Up to c^2 at least.

The harshness or smoothness of any chord can likewise be intensified by use of instruments which emphasize those partials which will produce the desired effect, or which omit those partials which would hinder the effect. So that the varying purposes of the music itself are heightened by skilful use of color in instruments. It is this which lends much to the richness and diversity of orchestral music.

NOTATION OF COLOR.

Notation of color is therefore seen to consist of two things; 1st, the writing of chord-tones; 2nd, the indication of instruments.

The first is involved in the make-up of the music as a whole. The second is what is called the **scoring** of the composition; for human voices, orchestra, band, organ, piano, one or all of these.

PART SECOND.

HARMONY

---

1 The study of Harmony is the study both of chords and of melodies.

2 A **chord** is a combination of musical tones that may be sounded at once—vertical music.

3 A **melody** is a succession of musical tones—horizontal music.

GOUNOD, BENEDICTUS, from MESSE SOLENNELLE.

4 Harmony discusses what chords are valuable, and what melodies should be created in the passage from chord to chord.

5 For example: If one were to put a clenched fist upon a piano-keyboard, pressing down all the keys within reach, it would seem as if the resulting jumble
6 of sound must be admitted to be absolutely unmusical. Yet, in all probability, by obeying laws of harmony which would determine suitable melodic motion to and from each of the notes struck, one could enter and emerge from this seeming chaos in an order that would make the clash of tones by no means excessively disagreeable.

HARMONIC STRUCTURE.

INTERVALS.

7 An **interval** in music is the *relationship, as to pitch*, of any two musical sounds, *reckoned according to their notation.*

8 That is, an interval implies three things:

9 1st, that two sounds are thought of;

10 2nd, that they are thought of as having a notation;

11 3d, that they are thought of as having an exact pitch-relationship.

1 Intervals therefore have two names; a *general* name that defines the relative degrees on which the notes are written, and a *specific* name that declares the exact relationship of the sounds written on the degrees in question.

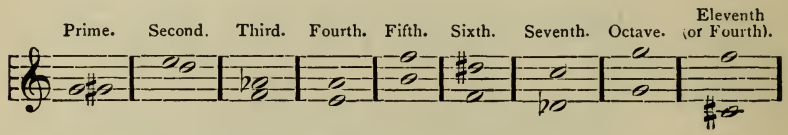
General Names of Intervals.

2 Two notes written upon the *same degree* make the interval of a **prime**, *whether identical in sound or not.*

3 Two notes written upon *adjoining degrees* make the interval of a **second**, whatever the relationship of the sounds may be.

4 Notes written *with one degree intervening* make the interval of a **third**; and so on, intervals being named **fourths, fifths, sixths, sevenths, octaves,** and sometimes **ninths, tenths,** etc.

5 Usually, however, intervals that involve more degrees than an octave are regarded as duplicates of the intervals made by notes of the same letter-names within the octave, a *ninth* being equivalent to a *second*, a *twelfth* to a *fifth*, etc.



Specific Names of Intervals.

6 Intervals are classified specifically according to the relationship which a key-note bears to the notes above it.

7 The intervals which a key-note makes with other notes in its possible diatonic scales (see p. 15, s. 9), in distinction from larger or smaller intervals written on the same degrees, may be called the **normal intervals.**

8 Where there is but one normal interval, it has received the name **Perfect**; where there are two, the larger has received the

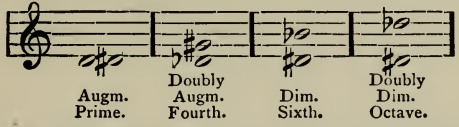
9 name **Major**, and the smaller the name **Minor**. Thus, normal Primes, Fourths, Fifths, and Octaves are Perfect; normal Seconds, Thirds, Sixths, and Sevenths are Major or Minor.

10 For example, to the key-note d^1:

Intervals a half-step larger than normal are called **Augmented**;* a whole step larger, **Doubly Augmented.**

Intervals a half-step smaller than normal are called **Diminished**; a whole step smaller, **Doubly Diminished.**

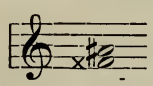
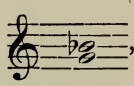
For example:



EXERCISE 24. **Write and name a complete table of intervals, including augmented and diminished, to the key-note ♭g¹; to the key-note b.**

The interval being known which the key-note of a scale makes with every other, it is only necessary to add that every interval containing the same number of degrees and yielding the same sounds *has the same name, wherever in a scale* the two notes of the interval may stand.

Hence, each interval is to be *named* as if it stood in the scale of its lower note. If the lower note be an unusual key-note, its enharmonic writing (p. 12, s. 1) may be compared with the like enharmonic of the upper note;

e. g.:  equals  , and is a minor third.

EXERCISE 25. **Write and name the intervals which the second note of the major scale of ♭b makes with every other note of the scale; which the third note makes; the fourth, etc; also, which the second, third, etc., note of the minor scale of ♯f makes with every other note of that scale.**

The perfect prime is also called the **unison.**

The diminished second is also called the **enharmonic interval.**

The augmented prime is also called the **chromatic half-step.**

The minor second is also called the **diatonic half-step.**

Consonances and Dissonances.

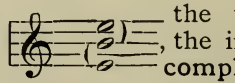
By a **consonance** is meant an interval, the sound of which is musically restful, needing not in itself to be followed by any other interval. The consonances include all normal intervals, *except seconds and sevenths.* The reason of the restfulness of consonances lies in the fact that they are the intervals found between the first six partial tones of the Harmonic Chord of Nature (p. 57), except the minor sixth, which is found between the 5th and 8th partial tones; all these partials *are, therefore, low*

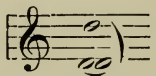
* Notice that a half-step larger than *minor* is *not* "larger than normal."

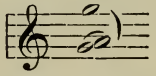
enough in the series to have been of educating force to musical ears. (See p. 57, s. 8 *et seq.*)

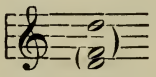
1 By a **dissonance** is meant an interval the sound of which is
2 unrestful, needing to be followed by a consonance. The dissonances include all intervals not consonant; namely, all seconds and sevenths, and all diminished and augmented intervals.

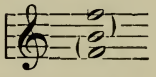
Inversions.

3 If three notes be compared,  the two outer of which make an octave, thus: , the intervals *made with the inner note* are called **complementary in-**
4 **tervals**, or **inversions** one of the other. That is, an *inversion* or *complementary interval* is the interval which either note of a given interval makes with the nearest octave of the other.
5 The **complementary intervals** are

Primes and Octaves: 

Seconds and Sevenths: 

Thirds and Sixths: 

Fourths and Fifths: 

6 The **complements** or **inversions** of all major intervals are minor; of all minor intervals are major; of all augmented intervals are diminished; of all diminished intervals are augmented; of all perfect intervals are perfect; of all consonant intervals are consonant; of all dissonant intervals are dissonant.

7 EXERCISE 26. 1. Demonstrate and illustrate the above paragraph.
8 2. Write and name a complete table of the inversions of all intervals made with the note e^1.

9 NOTE. For convenience observe that, since intervals are read from the lower note upward, the inversion of any interval will simply reverse its reading; a - b becomes b - a, ♭d - ♯f becomes ♯f - ♭d, etc.

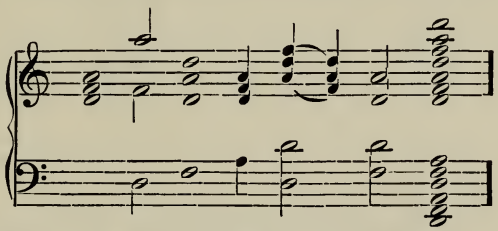
CHORDS.

10 **Chords** may be classified as *structural chords* and *inharmonic*
11 *chords*. Inharmonic chords are modifications made in structural
12 chords for the sake of special effects of melody. Their presentation therefore comes under the study of Harmonic Movement.

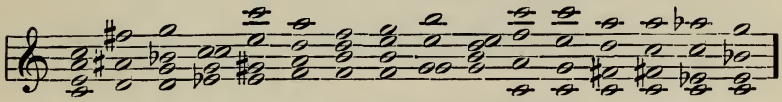
The **structural chords** are as follows:—

Triads.

The simplest chord used in music is called the **triad** (three-note chord). It consists of a given note with its third and fifth; for example, *d*, *f*, and *a*. The triad receives its name from the note from which it takes its rise, which note is therefore called the *root* of the chord; and is the same triad, whichever of its notes be the lowest or the highest, whether the notes be all written within one octave or spread over several octaves, or whether any or all of its notes be duplicated at the unison or at some octave. Thus, the following examples are all writings of the triad of *d:*



EXERCISE 27. 1. Name the following chords, if triads:



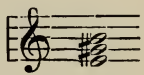
2. Name all the triads in the previous examples of this book.

Triads are classified according to the character of their intervals.

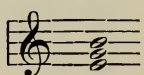
Consonant Triads.

The two most important chords in music are those formed wholly of consonant intervals; hence, called *consonant triads.* They are the *major* and the *minor triad.*

The **major triad** is a chord having a root, its *major third*, and its *perfect fifth;* e. g.:



The **minor triad** is a chord having a root, its *minor third*, and its *perfect fifth;* e. g.:

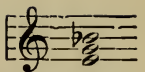


No other *consonant chords* are possible in music. All other chords, while containing some consonances, have at least one dissonance.

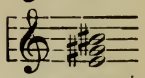
Dissonant Triads.

The dissonant triads which are of most importance are the *diminished triad* and the *augmented triad.*

The **diminished triad** is a chord having a root, its *minor third*, and its *diminished fifth;* e. g.:



The **augmented triad** is a chord having a root, its *major third*, and its *augmented fifth;* e. g.:



EXERCISE 28. **Name the notes of a major, a minor, a diminished, and an augmented triad, using for root each of the twelve tones of music, and each in at least two notations.**

Still other triads are sometimes used, but the four given above are the most important. They alone are to be found without chromatic tones in the major and minor scales.

It is indispensable for a musician to know, concerning all chords, upon what scale-degrees they can be formed by the use of scale-notes. A convenient graphic presentation of the triads is given below, major triads being indicated by large Roman numerals, minor triads by small ones; the diminished triads by a small numeral and a ^{0}, and the augmented by a large numeral and a +; the numeral itself stating the scale-degree upon which the chord stands.

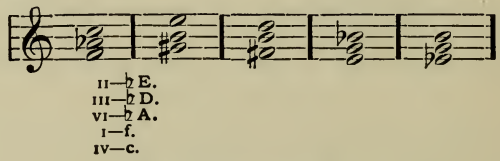
Thus, IV means that the chord so designated is on the fourth degree of a scale and is a major triad; VII^{0} means that the chord is on the seventh scale-degree and is a diminished triad.

The triads of the Major Scale are I II III IV V VI VII^{0}.

The triads of the Minor Scale are I II^{0} III^{+} IV V VI VII^{0}.

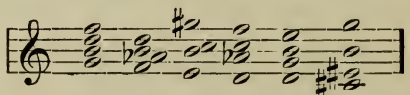
EXERCISE 29. 1. **Prove that the above statements are true, by writing out the chords in the key of ♭A; in the key of f.**

2. **Write the possible Roman Numerals under the following chords, adding to each numeral the key in which the chord would then appear, as in the example printed:**



Seventh-Chords.

The chord next in order of simplicity to the triad is called the *seventh-chord.* It consists of a root, its third, its fifth, and its seventh (a four-note chord); that is, it is a triad *with seventh added*, which makes the chord in all cases dissonant. Thus:



As is the case with triads, those seventh-chords which are found upon degrees of the scale are the most important; although there are several that require chromatic tones in their formation, which have great beauty and force.

A graphic presentation of the seventh-chords upon scale-degrees may be made as with triads, by adding to the numerals a 7 to indicate a minor seventh, a $7^{\flat}$ to indicate a major seventh, and a 7^{0} to indicate a diminished seventh.

Thus: The Major Scale has $I^{7\flat}$ II^{7} III^{7} $IV^{7\flat}$ V^{7} VI^{7} VII^{07}.

The Minor Scale has $I^{7\flat}$ II^{07} $III^{+7\flat}$ IV^{7} V^{7} $VI^{7\flat}$ VII^{070}.

EXERCISE 30. Write an illustration of each of the seven kinds of seventh-chords in the above tables, and put under it the possible Roman numerals and the key to which each assigns the chord.

Chords of Five or More Notes.

A still more complicated chord is that called the **ninth-chord.** It consists of a root, its third, its fifth, its seventh, and its ninth (a five-note chord). Most ninth-chords can be best treated as inharmonic chords. The structural ninth-chords are $V^{9\flat}$, V^{9}, and $II^{9\flat}$, II^{09}, in some of their uses.

Chords of six or more notes are all best treated as inharmonic modifications of triads or of seventh-chords.

Position of Chords.

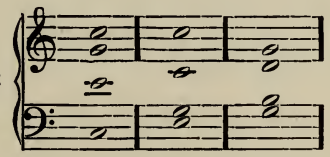
When the lowest tone sounding in a chord is its root, the chord is said to be in the *fundamental position.* When the lowest tone sounding is some other tone of the chord than its root, the chord is said to be *inverted.* The *first inversion* has the third of the chord for lowest tone; the *second inversion* has the fifth of the chord for lowest tone; the *third inversion* has the seventh of the chord for lowest tone; etc.

Inversions may be indicated, in graphic presentation, by one or more accent-marks at the lower right-hand corner of the numeral. Thus, $IV_{\flat}$ means first inversion of the major triad on the fourth scale-degree; $V^{7}_{\flat\flat\flat}$ means third inversion of the seventh-chord on the fifth scale-degree.

Open and Close Harmony.

A chord whose middle parts lie as near as possible to the soprano or to the bass, is said to be in **close harmony,** or **position.**

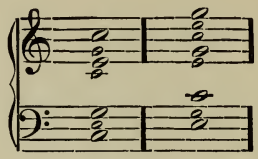
E. g.:



NOTE. The term *close harmony* is sometimes applied with a different meaning, to indicate a succession of somewhat intricate chord and melody-movements.

A chord, written so that between each two parts another chord-note might have been inserted, is said to be in **open harmony.**

E. g.:



HARMONIC MOVEMENT.

Harmonic movement is the following of one chord upon another. It involves a choice of suitable chords and the making of suitable melodies in the passage from chord to chord.

With his first task under harmonic movement the student enters upon a course of actual composition, starting with the simplest harmonic material in its simplest use, then advancing to its more involved use; after that dealing with more elaborate material in its simplest use, then in its more involved use; and so forth. Such a course, to be exhaustive, must master successively the whole harmonic material, in all its uses, applying this in all rhythms and Forms, and with all colors, completing the course with the construction of a symphony.

The study of harmony proper is not supposed to make application of chord-succession to rhythm and Form farther than is necessary for the proper understanding of the effect of rhythm upon the meaning of chords. But it is important to recognize that, in the practical work of a composer, harmony and rhythm are inextricably mingled, and that, therefore, the study of the one leads naturally into that of the other. A true method of study, therefore, allows the student, from the outset, to do work which, so far as it goes, is artistic. Given the same material and the same task, the best composer would produce a like result. Genius for the creation of music appears mainly in the choice of effects to be gained, rather than in the working-out of the problems of melody, harmony and rhythm which follow such choice. These latter can be worked out by any thoroughly equipped musician, even though he be utterly incapable of the creative thought that gave them birth.

TONALITY.*

Tonality concerns itself, first, with the choice of a scale; then,

* The following discussion of **tonality** is to be carefully read, and, as far as possible, mastered by the student; but its chief value will appear in the constant reference which he will need to make to it in the preparation of later work.

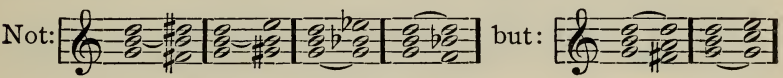
with the use of chords which shall render clear and definite the impression of that scale.

Scale-Formation.

1 If one start at random with a single tone as the beginning of a piece of music, the harmony which suggests itself at once is the major triad (at the prompting of the Harmonic Chord of Nature).

2 The *line of least resistance* in the creation of melody is found in the use of another tone of the same chord, or of some tone which, although not lying in the same harmony, suggests a major triad that still retains some connection with the former

3 chord. The only two major triads that retain a common bond with a given major triad, and yet do not chromatically contradict any tone of the first, are (1) that whose root lies a perfect fifth *above* the root of the given triad, and (2) that whose root lies a perfect fifth *below* the root of the given triad. E. g.:



4 By using the tones of these three major triads, a melody may be created, simple and natural, with suggested harmonies equally simple and natural.

5 Thus, by following the line of least resistance, a choice of usable tones has been made that owe their existence primarily

6 to the starting tone as root of a major triad. The tones of the three triads are seven in number, and form that diatonic major scale, the *key-note* of which is the root of the original chord.

7 The three chords which determine the scale are, therefore, the *principal chords of the key;* they are called respectively the Tonic, the Dominant, and the Subdominant Triads. See below, s. 13.

8 Note. The above paragraph is offered as the logical explanation of the

9 major scale, and *not as a statement of its historical development.* As a matter of fact, the possible combinations of tones are so numerous that (historically) many other scale-formations than the major sprang into existence, and were found

10 available. That the major scale has finally emerged as the most valuable of all, is due, however, to the fact that it *does follow the line of least resistance*, as shown above.

11 Other scales than the major find their justification in the de-

12 sire for a different color in the structural harmonies. Thus, the minor scale is formed by substituting the minor triad for the major in the triads on the key-note and on the fourth scale-degree.

Names of Scale-Notes.

13 The notes of the scale have received names based upon the idea of *tonality*, as follows: The key-note is called the **Tonic;**

the fifth is called the **Dominant** (ruling-note); the fifth below the tonic (i. e., the fourth of the scale) is called the **Subdominant** (under-ruling-note); the third of the scale (middle note of the tonic triad) is called the **Mediant**; the sixth of the scale (middle note of the subdominant triad) is called the **Submediant**; the second of the scale is called the **Supertonic**; and the seventh of the scale, from its strong melodic tendency toward the key-note, is called the **Leading-tone.**

Melody-Formation.

From the previous paragraphs it will be seen that in actual composition the choice of a scale, the formation of melody, and the use of chords, are all inter-dependent. For them all, the fundamental test of simplicity is, that *that process is most simple which can be most quickly and easily followed by the mind.* In stating the laws of melody, however, it is assumed that a scale has already been chosen.

The order of melodic simplicity is as follows:—

The simplest melodic succession is the repetition of the same tone.

The melodic succession next in order of simplicity is from one tone to the *nearest in its scale.* Thus, in the key of C, the note *b* would incline more readily to *c* than to *a;* the note *f* would incline more readily to *e* than to *g.* Still more plainly, in the key of E minor the note *c* would incline to *b* rather than to ♯*d.* On the contrary, in the key of F the note *c* would be in equipoise between ♭*b* and *d.*

Next to diatonic movement, in order of simplicity, comes a skip of some consonant interval, preferably a smaller one.

More difficult to follow in mind is the skip of a dissonant interval. The simplest of such skips are those, the notes of which are familiar as an interval in some well-known chord; the skip, for example, of a minor seventh or diminished fifth, both of which intervals are familiar as occurring in the chords VII° and V⁷. A dissonant skip is also made more easily if both of its tones are accompanied by the same chord.

Augmented intervals are the most difficult to introduce into melody: the difficulty increasing with the distance of the tones apart.

Again, the simplicity of a melody as a whole is greater (1) the fewer the skips; (2) the more they are dispersed (each skip or group of skips being followed by diatonic passages); (3) the more carefully skips in one direction are followed by scale-passages or skips in the contrary direction, two or more *wide* skips in the

same direction being especially unpleasant, unless they are from one tone to another of the same chord.

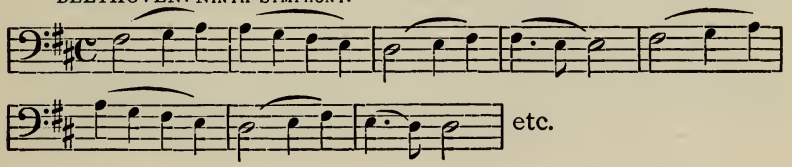
Again, the chord, of which a melody-note is a part, exercises a marked effect upon melody-formation; as follows:

If the note be part of a consonant interval, the natural tendency of the tone is *weakened.* If the note be part of a dissonant interval, its natural tendency is *heightened.* Thus, in the key of C, the note *f*, as a part of the triad of *d*, has scarcely more inclination toward *e* than toward *g;* but, as a part of the seventh-chord of *g*, it has a marked inclination toward *e.*

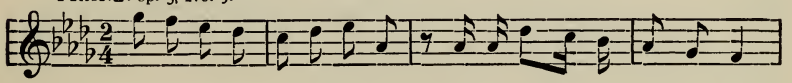
Finally, the freedom of melody in chord-successions is proportionate to the importance of the melody in the music and the simplicity of the chords used. That is, when three or four melodies unite to form a succession of chords, the highest and the lowest melodies, being more readily followed than the others, would admit of more skips, etc. Also, an unusual or complicated chord will be more quickly understood if the melodies made in coming into it and leaving it, are extremely simple.

EXERCISE 31. Demonstrate, according to the preceding paragraphs, the comparative simplicity of the following melodies:

BEETHOVEN: NINTH SYMPHONY.



FRANZ: op. 5, No. 5.



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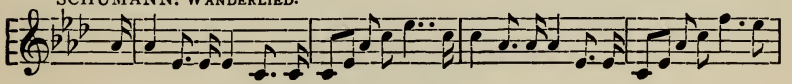

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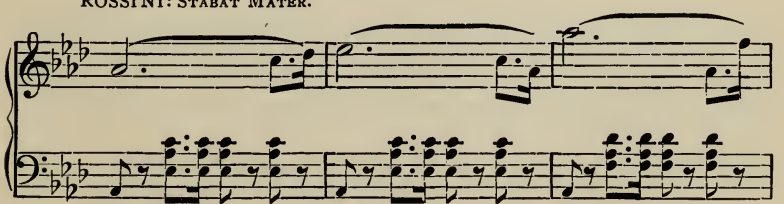
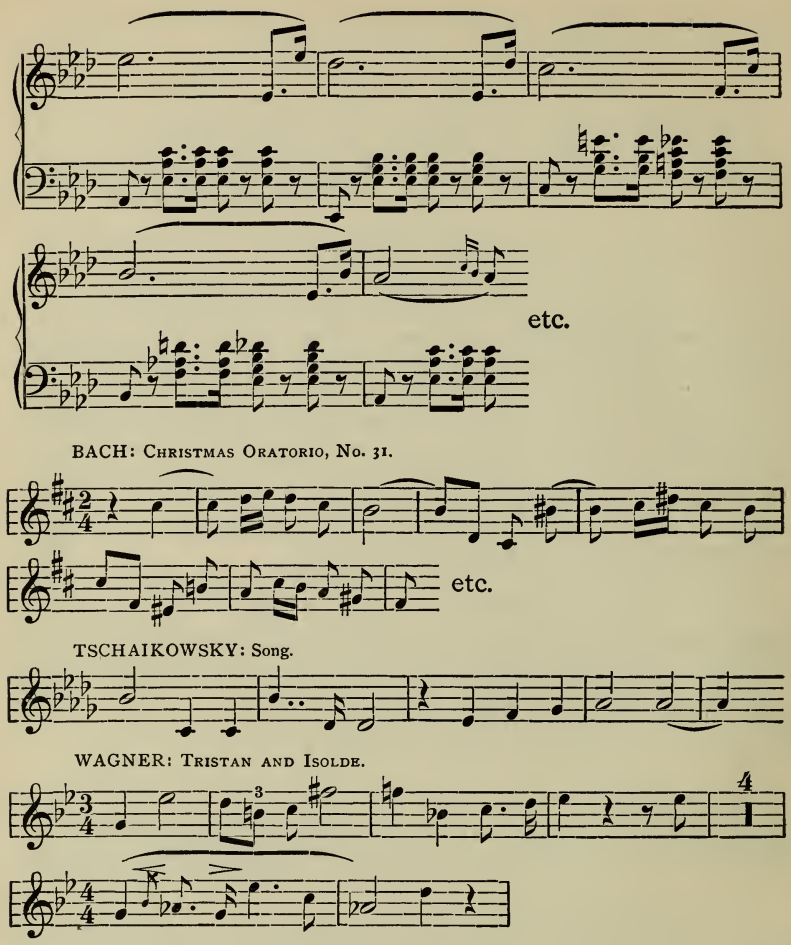




Choice of Chords.

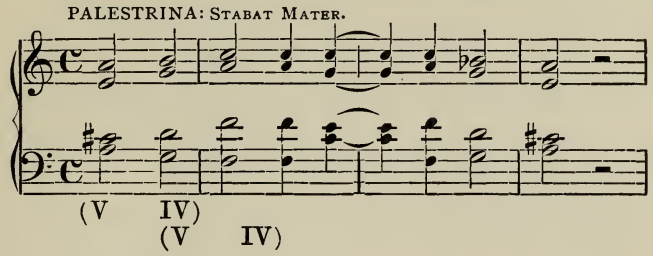
Choice of Principal Triads.

1 For creating and maintaining the impression of a key, it is evi-
dent that the Tonic Triad is best; closely allied to which are the
2 Dominant and Subdominant Triads. The tonic triad, in par-
ticular, will be the first *accented consonant chord* of the piece,
and the *final chord* of the piece.

3 If principal triads alone are to be used, *either all three* chords
should occur, or the rhythm alone must be made to determine

which of the two used is tonic. For example, the major triad of *c* and the major triad of *g* are capable of appearing either as Tonic and Dominant chords of the key of C, or as Subdominant and Tonic chords of the key of G.

The order in which these chords shall follow one another is immaterial, *except* that the progression from V to IV does not promote a clear apprehension of the key. E. g.:

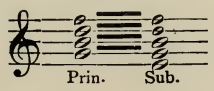


NOTE. The beginning of this example, which is felt to be unusual even from the standpoint of the ecclesiastical modes in which it is written, is entirely uncertain as to key from the modern standpoint.

This tonal uncertainty (in V-IV) is due to the fact that the dominant triad unites so much more readily with the tonic triad, with which it has a tone in common, and to which one of its notes, the leading-tone, naturally inclines, than with the subdominant, that the progression V-IV has almost the effect of breaking away from the key. Hence, the progression is good only when such an abrupt transition is desired.

Choice of Subordinate Triads.

With each principal chord of a key may be coupled another chord called its *relative* or *subordinate*. The root of the relative chord is a third below that of its principal; hence, all other notes of the relative chord are taken from the principal chord.



These chords can be used in limited numbers without injuring the tonality, *under the following restrictions:*

1. That they take the place of their own principals, or follow them;—e. g., V-VI is tonally equivalent to V-I, and IV-II to IV-IV.

Observe, therefore, that V - II has the same unusual effect as V-IV, and is good only under like conditions.

2. That they should seldom appear with a strong accent, lest they should seem to be principal chords of another key.

3. That a principal chord following its own subordinate has the weak effect of seeming like an incomplete subordinate chord, and is therefore rarely available.

4. That the triad on III is a peculiar chord, very uncertain tonally, and on that account seldom used. When found, it occurs usually in the order III-VI (p. 91 : ss. 11, 12) or III-IV (contrary to Rule I).

Choice of other Chords.

All other chords than the above are dissonant. Dissonant chords have special treatments, and the specific rules of guidance in their choice and use will be presented under the special problems of composition which call for them.

In general it may be said that all rules of tonality given later are but applications of the laws already stated.

USE OF CONSONANT CHORDS.

Preliminary Statements.

Part-writing.

The ability to use chords in the more natural and simple ways which should first be learned, can be most easily attained by undertaking to write music suitable to be sung by a quartette of human voices; since the limited range of the voices will keep the chord-notes within easily recognizable intervals with one another, while the simplest of melodies are always satisfactory in writing for the human voice.

The range of the four voices may be fixed for practical purposes as follows:

Doubling of Tones.

Triads, when written in four parts, must have one of their tones doubled, at unison or octave. The requirements of melody usually indicate which tone that shall be. But when there is a choice, the law of balance of sound found in the Harmonic Chord

determines that, in major chords at least, the root should be most prominent, the fifth next, the third least.

Omission of Tones.

Somewhat rarely the melodic requirements are met better by omitting a tone from a triad. This necessitates, in four-part harmony, the doubling of both the remaining tones, or, often, the tripling of one, which should be the root. There is but one chord-note, *in any chord*, that supplies itself so readily in thought as to be omitted without at all injuring the clear statement of the chord,—namely, the *perfect fifth.*

Terms of Melodic Motion.

The terms *contrary motion*, *oblique motion*, *parallel motion*, and *similar motion*, are used to indicate the relative directions of melodies, as follows:

Melodies are in **contrary motion** when one ascends, the other descends.

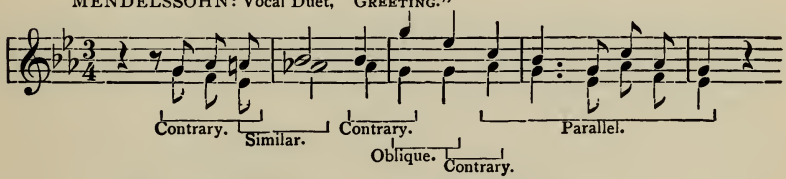
Melodies are in **oblique motion** when one moves, the other remains.

Melodies are in **parallel motion** when they preserve the same interval one with another *in their motion.*

NOTE. The mere repetition of the same notes, as in the second measure of the example below, is not technically *a melodic motion.*

Melodies are in **similar motion** when both ascend or descend, but the interval between them does not remain the same.

MENDELSSOHN: Vocal Duet, "GREETING."



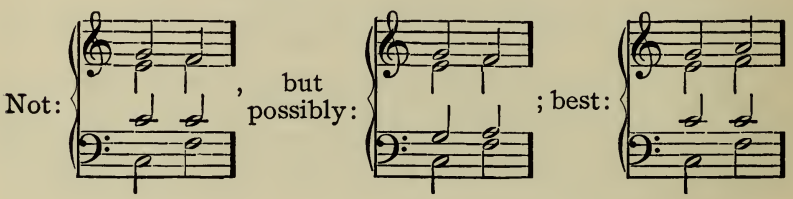
Task I.

1 **(To write simple four-measure cadence-groups of principal and subordinate chords in a given major key, in fundamental position.)**

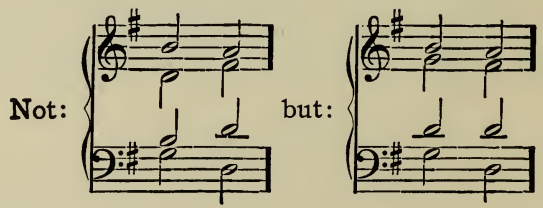
2 NOTE. In elementary exercises it is evident that a comparatively simple rhythm in somewhat slow time is most appropriate (e. g., $\frac{2}{2}$, $\frac{3}{2}$, $\frac{3}{4}$, $\frac{4}{2}$, $\frac{6}{4}$, or $\frac{6}{8}$).

3 The following *rules* of guidance for this and other tasks are
4 applications of the general laws already discussed. Observe that *the laws are invariable;* the rules are merely statements of the application of these laws under certain conditions; *when, later, new conditions arise, some of the rules may need modification.*

5 Rule I. No note of any chord is to be omitted, except, rarely, the perfect fifth of a chord (see p. 75, ss. 1–3).



6 Rule II. When the requirements of melody allow, the *root* of a consonant chord is to be doubled rather than any other note; and in major triads and principal chords generally the *third* is *not* to be doubled. (See p. 74, s. 12.)

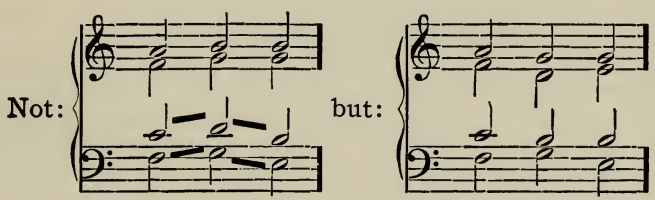


7 Rule III. Each note is to proceed with the simplest possible melody to the nearest *available note* in the new chord, remaining

where it is, of course, if the *same* note, technically called the *note of union*, occurs in the new chord in the same part.

1 N. B. The present task, that of uniting chords in *fundamental position*, makes it often necessary for the bass to skip, a nearer note in the new chord being, under the conditions of the task,
2 *unavailable*. Yet within the prescribed conditions the law of melody still holds; the skip should be to the *nearest root*, unless that would require two wide skips in the same direction (p. 70, s. 15).

3 Rule IV. A succession of the interval *perfect fifth* between the same two parts is faulty in all simple harmonic effects.

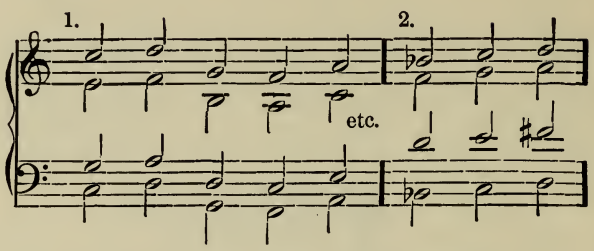


4 This rule in certain instances *prevents the nearest note of the new chord from being available*, and is the outcome of so important an harmonic principle as to deserve an explanation somewhat at length, as follows:

5 In the writing of consonant chords one after the other, there is an essential consideration, often entirely overlooked; namely, that an inertia has to be overcome, with each chord, which does
6 not exist in the cases of dissonant chords (p. 64, s. 1). That is, *it is not inherently necessary that a consonant chord should be followed*
7 *by another chord at all.* The consonant chord is entirely restful, so that the following chord in no way presents itself as an ex-
8 pected harmonic sequel.* Hence, if the two chords be heard one after another with the *same relative position of the sounds*, there

9 * Rhythm, of course, may require another chord to follow, where the nature of the chord itself does not.

is a decided sense of disjunction; each chord stands apart by itself. E. g.:



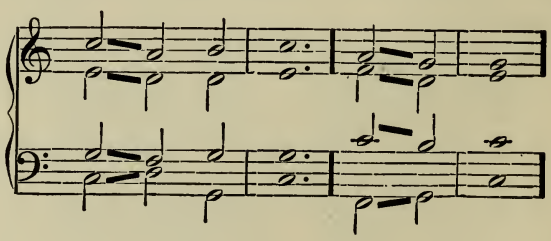
The root and fifth assert this independence of chord most plainly, so that if in successive chords root and fifth are sounded by the *same two voices*, the sense of disjunction is very evident. Let the pupil test this statement by playing the preceding illustration without the fifths, and also without *the thirds*. But since the problems of elementary writing are all directed to smoothness of effect, the feeling of disjunction must be avoided, and therefore parallel fifths are unpleasant.

NOTE. Advanced writing, where dramatic disjunction may be an advantage, admits, of course, of the means which produce such an effect.

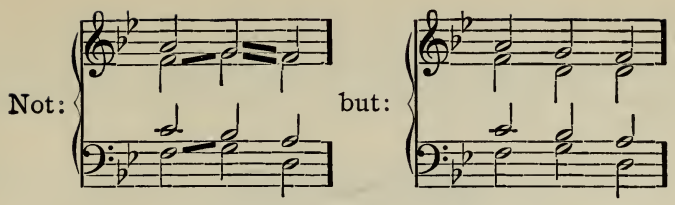
When chords are used in fundamental position the observance of Rule III will prevent this fault, *unless* the triads are on adjoining degrees. In that case the simplest movements of the parts would *cause* consecutive hearing of fifths between the same two parts (see illustration 2 above, etc.). To avoid this, the following rule suffices:

Rule V. When two chords on adjoining degrees are used in fundamental position, let the upper parts move to the nearest notes in *contrary motion* to the melody of the basses.

E. g.:



Rule VI. A succession of the interval *perfect octave* or *perfect prime* (*unison*) between the same two parts is faulty in all simple four-part writing.



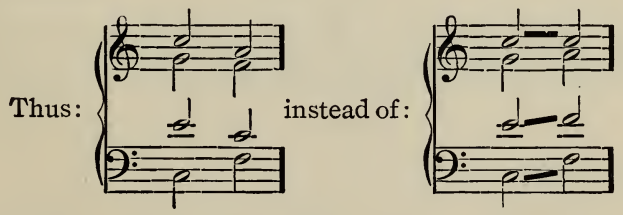
1 This rule is based partly on the same considerations as Rules IV and V, but mainly on the mere fact that such progressions practically blot out one of the parts, and thus weaken the melodic effects.

2 Rule VII. When the same chord is repeated, all of the parts are at liberty to skip to a new arrangement of the chord, provided it is in itself a good arrangement (compare Rules I, II, and VIII).

3 Rule VIII. The bass may be more than an octave from the tenor, but none of the other parts should be more than an octave from its neighboring part.

4 This rule is not invariable, but is based upon the general law of chord-balance derived from the Harmonic Chord of Nature (p. 57, ss. 4, 5, 8, 9), which calls for lesser distance between the upper than between the lower tones of a chord.

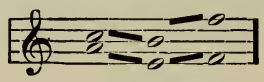
5 Rule IX. When chords have but one note of union, this note *may, if desirable, be abàndoned* in order to allow the parts to progress in contrary motion to the melody that sings the roots, i. e., the bass.



6 This rule gains for the music *melodic clearness, through the contrary motion* between the parts, and also avoids a slight effect

of disjunction, caused by what are called *concealed fifths* or *octaves.*

1 By a **concealed fifth** or **octave** is meant a perfect fifth or octave sung by two parts that have come to their notes by similar motion.



2 Concealed fifths and octaves are objectionable only in so far as they remind one of parallel fifths and octaves, the resulting
3 intervals being the same, the movement being similar. While this fault is not very important in itself, it often unites with others more serious, and the correction of one fault will prevent them all.

4 **EXERCISE 32. Work out the following chord-measures according to the foregoing rules. The Model Exercises given below will serve as illustrations.**

5 NOTE I. Since this is the simplest use of chords to be found in music, it is almost never continued through a complete composition, or even through a
6 cadence-group. *In the illustrations subjoined, and in others throughout the book, those chords, the explanation of which must be deferred till later, are indicated by the asterisk.*

MODELS.

7 Chord-scheme:

Key F; time $\frac{4}{4}$; I I V I | IV IV I – | I VI V I_1 | II_1^7 V I – ||

Working-out in hymn-tune "Gethsemane," R. Redhead.

8 Chord-scheme:

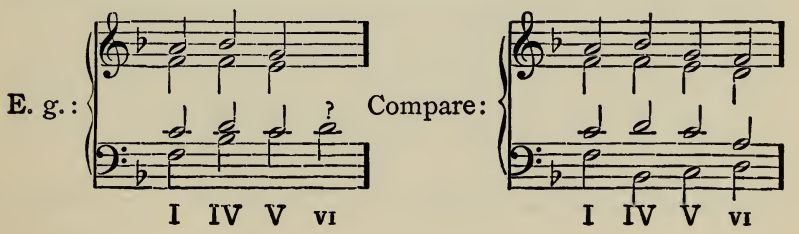
Key ♭E; time $\frac{4}{4}$; I IV IV I | IV I V I | V I IV I | V VI V^7 I ||

Working out, in Nocturne, op. 37, No. 1, Chopin.

Note II. Each of the exercises is to be written in three different keys, and the *first chord* of the three writings is to have respectively the root, the third, and the fifth of the chord in the soprano. Every chord will be assumed to occupy a time-unit (p. 34, s. 4). A chord occupying two or more units will be indicated by dashes after the numeral.

Note III. The last two exercises will not be found as interesting as the first four. This is partly because there is no chord-repetition, and partly because of the large proportion of subordinate chords used. These exercises intentionally require every succession of chords consistent with a proper regard for tonality, but the student should observe that, on this very account, the proportion of principal chords in them is much less than in the models.

Note IV. When working out an exercise, it often happens that a progression which would crowd the parts too greatly, can be avoided by taking advantage, in some earlier chord, of an opportunity to remove the bass to the lower octave, giving more room between tenor and bass (compare Rule VIII), and thus allowing the upper parts to descend without difficulty.



EXERCISES.

1. Keys: C, F, and D. Time $\frac{3}{2}$.

I | I IV I | V I vi | V V V | I – ||

2. Keys: ♭E, ♭A, and ♭D. Time $\frac{4}{2}$.

I I I IV | I IV ii iii | IV vi V V | I – – – ||

3. Keys: B, A, and E. Time $\frac{6}{4}$.

I I | V– vi IV– I | IV iii vi V– I | V V I V– vi | V– – I ||

4. Keys: ♭B, G, and ♯F. Time 𝄵.

I | V III | IV V | VI IV | I ||

5. Keys: ♭C, ♭G, and ♯C. Time $\frac{3}{4}$.

I III VI | IV II V | I II V | I– – ||

6. Keys: F, B, and ♭D. Time 𝄴.

I I | IV II I V | VI III I V | I VI II V | I– ||

The student should now compose cadence-groups, choosing the rhythmic form and the chords himself.

In exercises extending through but one cadence-group (p. 52, s. 7) it is well to construct them as if they were the shortest periods (p. 53, ss. 3 and 5).

As to choice of chords at the beginning and cadence, see p. 72, s. 2; also p. 52, ss. 2–4, and pp. 110–114.

As to choice of chords in general, see pp. 72–74.

Chords may be freely repeated, but the rhythmic effect is stronger if the repetition is from an accented to an unaccented chord, than the reverse. That is, an accent is marked best by a new chord. In the repetition of the tonic chord at the beginning of the music, the order unaccented to accented is not, however, felt to be weak. Also, the student will, in later exercises, find opportunity to use the latter order elsewhere than at the beginning, preserving the strength upon the accent by taking a new arrangement of the chord, with new bass note (e. g., 1st inversion).

EXERCISE 33. Write six Simple Cadence-groups, the student choosing his own key, rhythm, and chords.

Task II.

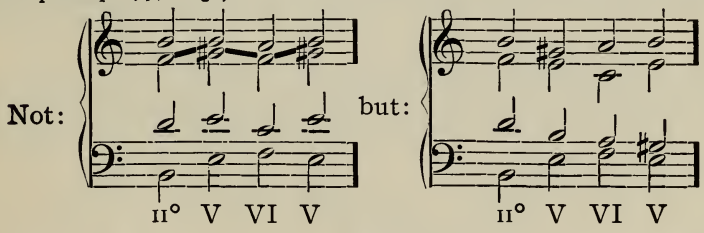
1 **(To write simple four-measure cadence-groups of principal and subordinate chords, in a given minor key, in fundamental position.)**

2 This task presents one difficulty not found in writing in major
3 keys; namely, that of avoiding augmented intervals. Strict care for simple melody will accomplish this purpose, except in the case of the augmented second made in passing from the submediant note to the leading-tone.

4 While there are cases in which the augmented second may appear in a melody with good effect (compare p. 71, s. 5), it should usually be avoided, as unmelodious.

5 In the working-out of this task, therefore, the rules of part-writing already given will hold, except so far as modified by the following rules for avoiding the augmented second.

6 Rule X. If a melody in seeking the nearest note would make an augmented second, let it move to the nearest note of the chord in the *opposite direction;* and let the other parts likewise change their direction so far as is necessary in order to avoid other faults and to preserve a good arrangement of the chord. (Compare p. 79, s. 5.)



7 Although the above rule covers the whole ground, yet the most common instance where, with chords in fundamental position, care is required to avoid the augmented second, namely, between VI V or V VI, permits a simple and exact additional rule, as follows:

8 Rule XI. In the progression VI V or V VI, double the *third* in the submediant chord, *never the root* or *fifth.*

9 **Exercise 34. Work out the following chord-successions according to the foregoing rules.**

10 Note. The simple use of triads of a minor scale in fundamental position
11 *throughout a cadence-group* is extremely rare in actual composition. The author can, in fact, find no illustrative model which exemplifies the special rules above given, although illustrations in two or three chords are abundant.

MODELS.

1 Chord-scheme:

Key a; time $\frac{3}{4}$; IV V I | IV– I | IV I IV | d IV –I ||

Working-out, in Nocturne op. 15, No. 3, Chopin.

2 Chord-scheme:

Key g; time $\frac{4}{2}$; I I | IV– II^0 V | I I I VI | V V VI V | I- ||

Working-out:

EXERCISES.

3 1. Keys:—d, g, and e. Time $\frac{2}{4}$.

I | V VI | IV II^0 | V V | I ||

4 2. Keys:—♭b, ♯g, and f. Time $\frac{3}{2}$.

I | IV IV II^0 | V III$^+$ VI | VI– V | I– ||

5 3. Keys:—c, a, and ♯f. Time $\frac{6}{4}$.

I– I V– VI | IV IV I II^0 V V | I– VI V V V | I– – – – – ||

6 4. Keys:—♭e, b, and ♯c. Time $\frac{3}{4}$.

I– IV VI | V V I I | II^0– V V | I– – – ||

5. Keys:—♯d, ♯a, and ♭a. Time $\frac{3}{4}$.

I | I I V | I IV II° | I VI V | I– ||

6. Keys:—e, ♭b, and g. Time ¢.

I IV | V VI | II° V | I– ||

EXERCISE 35. Write six more simple cadence-groups like the above; the student choosing his own key, time, and chords.

Task III.

(To write simple four-measure cadence-groups of principal and subordinate chords in a given key, with some of the chords in inversion.)

This task gives opportunity for a more melodious bass, since other notes than the roots of the chords may be utilized for its melody. Except in the cadence-chords (see p. 52), where fundamental chord-positions are needed to produce the feeling of rest, inverted chords are available as follows:

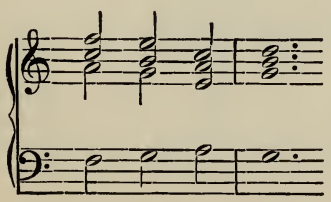
Rule XII. The third of a chord may always be used as the bass note (1st inversion) if it produces smoother melody in the parts, including the bass.

NOTE. Observe that the liberty of skipping in the bass, which has thus far prevailed, is due merely to the satisfaction felt at the strength which a chord shows when in fundamental position. If, however, a chord be inverted, the bass has no more license to skip than any other part.

E. g.:

instead of:

E. g.:

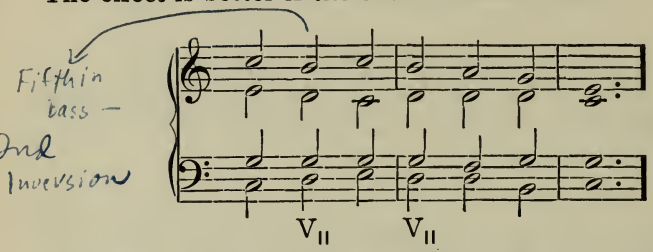


N. B. This series of chords, if written *in fundamental position*, would have worked out entirely different melodies in the parts.

1 A triad with its fifth as the bass note (2nd inversion), has a peculiar doubtfulness of character, arising out of considerations that cannot profitably be discussed at this point in the study of chords; hence, the use of the 2nd inversion is advisable, in elementary writing, only under special conditions stated in the four following rules.

2 Rule XIII. The fifth of a triad may be used as a bass note when all melodies made, both in entering and quitting the chord, are *diatonic.*

3 The effect is better if the chord is unaccented.



4 Rule XIV. The second inversion of the tonic triad may be used upon the accent, if it is followed by the chord of the domi-
5 nant in fundamental position. In this use the *bass note* is best doubled at octave or unison.

6 This inversion of the tonic chord is very common before the dominant in the cadence.

7 Rule XV. Two successive second inversions of consonant chords are *not available.*

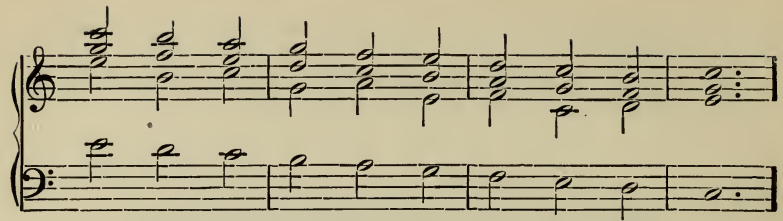
1 This effect is as disconnected as that of parallel fifths, and for the same reason.

2 Rule XVI. The second inversion of a triad may be used between two other positions of the same chord.

First Inversions on Adjoining Scale-degrees.

3 An apparent exception to the laws of tonality and of chord-balance is often found in the use of a series of triads in first inversion on adjoining scale-degrees.

4 For example:



1 The melodic effect is here plainly felt to be the all-important one; hence, the third of the chord is freely doubled to secure this advantage; and IV follows V, and II follows III, without
2 special sense of unpleasantness. Although so long-continued a series as any of the above is rarely met with in four-part writing, yet a succession of several such chords, with third freely doubled for the sake of good melody, is very common.

3 **EXERCISE 36. Work out the following chord-successions according to all the rules so far given.**

MODEL.

4 NOTE. See p. 67, ss. 12, 13, as to graphic presentation of inversions.

5 Chord-scheme:

Key ♭B; time $\frac{2}{4}$.

I I | V$_{II}$ I$_{I}$ | IV –$_{I}$ | I – | I –$_{I}$ | IV II$_{I}$ | I$_{II}$ V | I :‖
FINE.

I I | V I | IV I | V – :‖
D. C. al Fine.

6 Working-out, in "Spanish Chant."

B. Case, 1833.

I I V_{II} I_{I} IV –$_{I}$ I – I –$_{I}$ IV II_{I} I_{II} V I

I I V I IV I V

EXERCISES.

1 1. Keys: ♭D, A, and E. Time ¢.

I | I_{I} IV | V V_{I} | VI IV | I ||

2 2. Keys: c, f, and ♯g. Time $\frac{3}{4}$.

I | IV_{I} V I_{I} | IV VI_{I} V_{I} | I I_{II} V | I – ||

3 3. Keys: ♯F, ♭A, and D. Time $\frac{4}{2}$.

I | IV_{I} III_{I} II_{I} I_{I} | IV V I ||

4 4. Keys: ♭b, d, and ♯f. Time $\frac{6}{8}$.

I I | V V_{I} V_{I} I VI II_{I}° | I_{II} I_{II} V I ||

5 5. Keys: B, ♭G, and F. Time $\frac{3}{2}$.

V | I_{I} – I_{I} | II_{I} I_{II} V | VI – IV | I – ||

6 6. Keys; b, e, and g. Time ¢.

I | IV IV_{I} I_{II} II_{I}° | V V V_{I} I | VI V I_{II} V | I – – ||

7 **Exercise 37. Write six more simple cadence-groups like the above, the student choosing his own chords for inversion according to Rules XII-XVI.**

8 Note. In this and all following exercises it is not necessary to decide what chords shall be inverted until the actual writing-out of the exercises; then the exigencies of melody will decide each case in accordance with the rules applicable to the task in hand.

USE OF DISSONANT CHORDS.

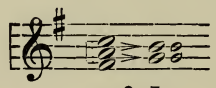
Task IV.

(**To write simple four-measure cadence-groups, using at will any of the triads of the scale in any position.**)

This task adds nothing to the previous ones, except the use of the *Leading-tone triad.* This latter chord, however, deserves careful study, since it is the first of a class of chords which are the most influential to be found in music; namely, *tendency-chords.* A **tendency-chord** is a dissonant chord which, by reason of the natural inclination of some of its tones (heightened by being in a dissonant interval, see p. 71, s. 3), is strongly inclined to a particular consonant chord as its successor. The most important group of tendency-chords is that which leads into the tonic triad; and the simplest chord of the group is the leading-tone triad.

All dissonant chords require *specially smooth melodic outcome* (cf. p. 74, s. 6) into a consonant chord. This is technically called the **resolution of the chord.**

The *leading-tone triad* resolves to the tonic chord in the following manner, and for the following reasons:



VII° I

Since the only dissonance is between root and fifth of the chord, these two tones are the **tendency-tones,** the root, as the most important tone of the chord, being strongest. Its tendency to the tonic would be evident even in a consonant chord, and here it is so marked as not only to require this progression, but to make the new tone itself the *root* of the resolution-chord. The tendency of the fifth is less pronounced, but, so far as shown, is toward the third of the tonic triad.

The fact of the root being dissonant instantly changes the balance of sound in the chord, for

Rule XVII. **Strong tendency-tones should not be doubled,** since the doubling results either in parallel octaves, or in the wrong progression of one of the tones.

In the leading-tone triad the third is the best note to double. The chord and its resolution will, in practical writing, be found to be somewhat thin *unless its third is used as bass note.* So written, with third (less often fifth) doubled, all of its tones find their way by diatonic progression into the tonic triad.

E. g.:

The last progression in the above example is not as good as the others, because of the parallel fifths* (p. 77) between soprano and alto.

A rule for the use of the leading-tone triad may be laid down as follows:

Rule XVIII. The natural resolution of the **leading-tone triad** is to the tonic triad; in which resolution

a. the *leading-tone itself* moves to the tonic tone;

b. the other tones move *diatonically;* care being taken to avoid concealed fifths, and to secure a good arrangement of the tonic chord.

The restrictions under which this chord labors, together with the much stronger effect of the other tendency-chords to be studied later, has caused its use in modern music to be somewhat limited. It is found sometimes as an unaccented chord between two statements of the tonic chord, and, more rarely, as a substitute for the dominant chord in a cadence, which was, in fact, its original use.

N. B. The minor scale presents two other dissonant triads beside the leading-tone chord, but they are not usually treated as dissonant, since they appear only as recolorings of the effects of the major scale (see p. 69, s. 11), and follow, therefore, the rules of tonality applicable to the corresponding consonant chord of a major scale. When these dissonant chords do follow their tendency, the III+ tends to VI, and the II° to V.

---

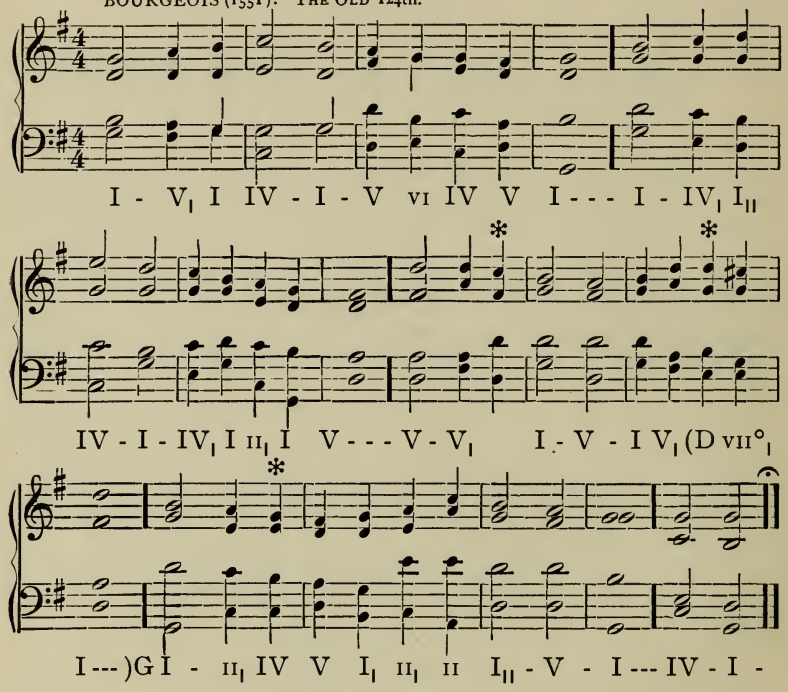
* In appearance these fifths are parallel, but, since the first is a diminished fifth, the effect is that of concealed fifths (see p. 77, s. 6, and p. 80, s. 2).

Exercise 38. Write out the following chord-successions according to the rules already given.

MODEL.

A four-cadence hymn-tune.

BOURGEOIS (1551): The Old 124th.



EXERCISES.

Note. For these and all following exercises the student is requested to choose his own keys, unless a particular key is specified, writing each exercise in several different keys, and making a point of writing most of them in those scales which offer him the greatest difficulties of notation.

1. $\frac{6}{4}$ I I$_{I}$ | V – V$_{I}$ I V VI | II$_{I}$ I$_{I}$ VII$_{I}$° I – I$_{I}$ | II V I$_{I}$ IV VI III | IV – – I ||

2. $\frac{4}{2}$ V | I$_{I}$ I$_{I}$ II° V | VI IV I VII$_{I}$° | I$_{I}$ VI V I$_{I}$ | I$_{II}$ V I ||

3. $\frac{3}{4}$ I VII$_{I}$° I$_{I}$ | II$_{I}$ III$_{I}$ VI | II$_{I}$ II V | I – – ||

4. $\frac{6}{8}$ I I$_{II}$ I$_{I}$ I$_{II}$ – V | I$_{I}$ IV IV$_{I}$ I$_{II}$ V VI | II$_{I}$° V VI VI$_{I}$ II°$_{I}$ V | I – – – – – ||

EXERCISE 39. Write four more four-measure cadence-groups like the above, illustrating the same task.

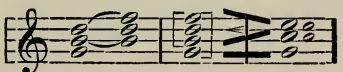
NOTE. It will be well, part of the time, to choose each chord and write it out at once before going further; one chord will often suggest what by smoothest melodic progression would best follow.

Task V.

(To write simple four-measure cadence-groups, making use of the Dominant Seventh-chord.)

The **Dominant Seventh-chord** is the most influential tendency-chord in music. This chord, like the leading-tone triad, tends into the tonic chord. It may be thought of as the dominant triad with seventh added, or as a welding together of the dominant and leading-tone triads, uniting, therefore, the characteristics of both.

E. g.:



V VII°=V⁷ I

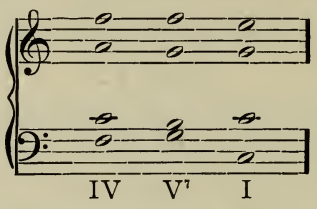
The three dissonant tones are root, third, and seventh. Of them the seventh is the strongest tendency-tone (being doubly dissonant), and therefore follows its natural inclination to the third of the tonic chord. The inclination of the root is to remain where it is, unless it be the bass note, when it skips to the new root. The inclination of the third (leading-tone) is to the tonic tone. The fifth of the chord alone exhibits no tendency, and is therefore free to move to either of the near tones of the resolution-chord, though it would usually move down to double the new root.

E. g.:

V⁷ I V^7_I I V^7_{II} I V^7_{III} I_I

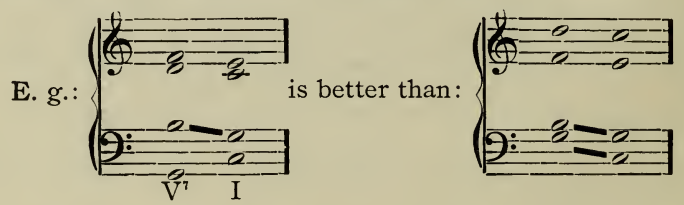
Any note of a dissonant chord may be used in the bass. And it will be seen that the resolutions of inversions of the above chord are all perfectly simple and good. The resolution of the chord

in fundamental position, however, results in a chord without a
1 fifth. But, since the fifth of the tonic chord is perfect, this is
2 allowable (see p. 75, s. 3). Or, instead, the fifth of the dominant chord may be omitted, it being a perfect fifth and having
3 no tendency. In the latter case the omission of the fifth causes the root to be doubled, and the resolution-chord has all its tones.

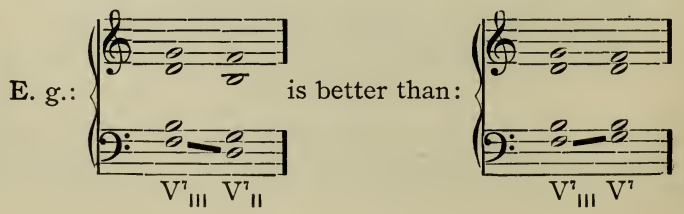


4 NOTE. Observe that in the example cited the omission of the fifth of the dominant chord serves a double purpose, for it avoids parallel fifths in progressing from the subdominant to the dominant chord.

5 If it be desired to have both the dominant chord (in fundamental position) and the tonic chord sound all their notes, this may be accomplished by allowing the third of the dominant chord to resolve by a skip downward to the fifth of the tonic
6 chord. But, since this violates the law of tendency, it is unsatisfactory *save in an inner part;* and even then it is better to have some other part take the note which the third of the dominant chord should have gone to, and to let the bass progress by contrary motion upward to the new root.



7 N. B. In repetitions of Dominant Seventh-chords, when the first chord has the *seventh as bass note*, the strong tendency of the note is best satisfied if the bass moves *down* in the repetition, rather than *up*.



1 The same is true in a *higher* part also, though in a much less degree.

2 **EXERCISE 40. Write out the following chord-successions according to the rules already given.**

MODELS.

MOZART: MAGIC FLUTE.

MOZART: MAGIC FLUTE.

MOZART: MAGIC FLUTE.

F. OTTO: MALE QUARTETTE, "The Wind."

1 1. C I | V^7_{III} – I_I I | V^7_I I V^7_{II} I_I | V^7 V^7 V^7 V^7 | I – – ||

2 2. $\frac{6}{8}$ I – – V^7_I V^7_{II} V^7_{III} | I_I – V^7_I I– IV | I_{II} – – V III^+_I V^7 | I – – – – – ||

3 3. $\frac{3}{2}$ I I_I | IV V V^7_{III} | I_I VII°_I I | V^7 – – | I ||

4 4. $\frac{4}{4}$ I | VI V^7 | I IV | V^7_{II} V^7 | I ||

5 5. $\frac{6}{4}$ V^7 | I II_I I_I V^7_{II} I_I IV | V VI IV_I V – V | V^7_{III} I_I V^7_{II} I V^7_I I | II_I I_{II} V^7 I – ||

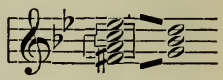
6 6. $\frac{6}{2}$ I II° V^7_I | I – – II°_I I_{II} V^7_{III} | I_I – – I VI IV | II°_I II° II°_I I_{II} III^+_I V^7 | I – – ||

7 **EXERCISE 41. Write six more four-measure cadence-groups like the above, illustrating the same task.**

Task VI.

8 **(To write simple four-measure cadence-groups, making use of the Leading-tone Seventh-chord, and Dominant Ninth-chord.)**

9 The **Leading-tone Seventh-chord,** like the Leading-tone triad, resolves to the tonic triad.

In Major: In Minor: 

10 The root is strongly dissonant, and tends to the tonic tone.
11 The seventh is strongly dissonant (in the minor scale, doubly
12 dissonant), and tends to the dominant tone. The other tones move diatonically, but so as to avoid parallel fifths.

13 The **Dominant Ninth-chord** likewise resolves to the tonic
14 chord. It may be thought of as a welding of the Dominant seventh-chord and Leading-tone seventh-chord.

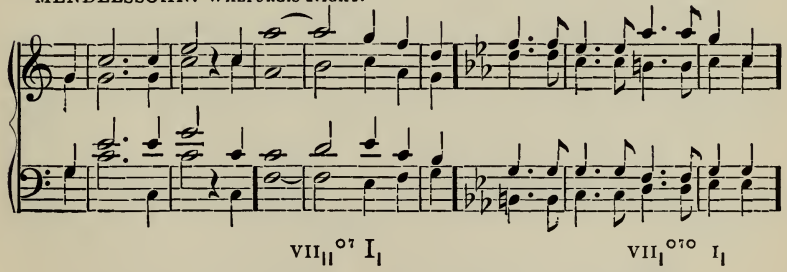
1 Four of the five tones are dissonant; hence, in four-part writing, the fifth of the chord is omitted, and the four tendency-tones *must follow their tendencies* (see p. 93, ss. 8, 9 and p. 96, ss.
2 10, 11). Even in five-part writing the fifth is often omitted and the root doubled (compare p. 94, s. 3).
3 Since the chord itself exceeds the limits of an octave, care must be taken that the *root* and the *ninth* maintain their inter-
4 val. An arrangement of the chord that transformed the ninth into a second, would obliterate the significance of the chord.
5 Both the Leading-tone Seventh-chord and the Dominant Ninth-chord may also make partial resolution into the Dominant Seventh-chord before reaching the Tonic chord.

E. g.:

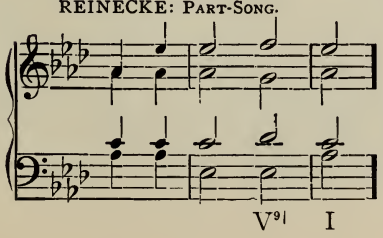
6 **EXERCISE 42.**

MODELS.

MENDELSSOHN: WALPURGIS NIGHT.



REINECKE: PART-SONG.



BRAHMS: PART-SONG.

1 1. $\frac{C}{4}$ I | I $\text{VII}_{\text{I}}{}^{\circ}$ I_{I} II_{I} | V $\text{VII}^{\circ 7}{}_{\text{II}}$ I_{I} IV | $\text{V}^{9\text{I}}$ I_{II} $\text{V}^{9\text{I}}$ I | $\text{V}^{7}{}_{\text{I}}$ – I ||

2 2. $\frac{3}{2}$ I | I_{I} $\text{VII}_{\text{I}}{}^{\circ 7\circ}$ I_{I} | IV I_{II} V^{9} | I VI V^{7} | I – ||

3 3. $\frac{6}{4}$ $\text{V}^{9\text{I}}$ – I $\text{V}^{7}{}_{\text{II}}$ I_{I} $\text{VII}^{\circ 7}{}_{\text{II}}$ | $\text{V}^{7}{}_{\text{III}}$ I_{I} $\text{V}^{7}{}_{\text{II}}$ $\text{V}^{7}{}_{\text{I}}$ – I | II_{I} $\text{V}^{7}{}_{\text{III}}$ I_{I} IV $\text{VII}^{\circ}{}_{\text{I}}{}^{7}$ I_{I} | $\text{V}^{9\text{I}}$ I_{II} V^{7} I – – ||

4 4. $\frac{C}{2}$ I | II° $\text{VII}_{\text{I}}{}^{\circ 7\circ}$ | I_{I} IV | V^{9} V^{7} | I ||

5 EXERCISE 43. Write four more four-measure cadence-groups to illustrate the same task.

Task VII.

6 **(To harmonize a melody, using the harmonic material so far mastered.)**

7 By this time the student should have mastered the laws of tonality sufficiently to be able, with the chords already studied,
8 to harmonize any simple melody. The harmonization when
9 made may seem, in many cases, unusual and clumsy. This will be due, however, to the fact that many notes of a melody can better be treated as *inharmonic* (p. 155).

10 A few additional rules of guidance are here given :

11 1. Any note may be root, third, or fifth of a triad. The sub-
12 dominant note may also be seventh of V^{7}, and the submediant note may be seventh of $\text{VII}^{\circ 7}$ or ninth of V^{9}.

13 In choosing which of the possible chords shall harmonize a melody-note, observe the *preceding chord* and the *following melody-note*, and select a chord which is tonally correct (see pp. 72-74), and in the resolution of which the movement of the given melody is correct.

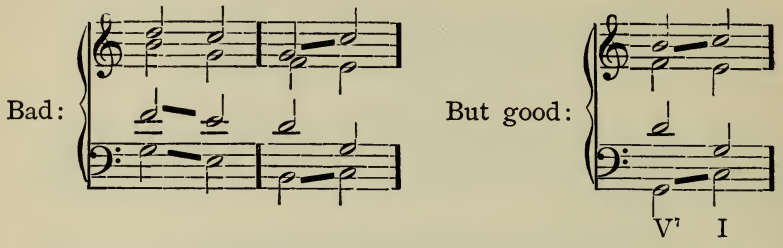
14 2. Introduce upon each accent, if possible, a new chord, or new bass note, or both. Compare p. 82, ss. 8-11.

15 3. A wide skip is most easily harmonized by repetition of a chord that contains both notes of the skip.

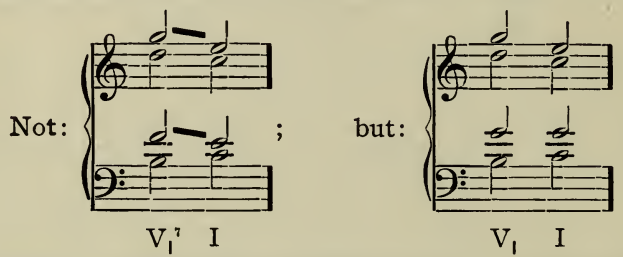
If a wide skip be harmonized by different chords, special care should be taken to make the leading of the other parts as smooth as possible.

4. As to freedom of melody in chord-successions, see p. 71, etc. But even an inner part may skip in order to gain a better arrangement of the new chord, *provided the tone from which the skip be made is not a tendency-tone.* In general, the more any one part skips, the quieter should be the movement of the other parts. But contrary motion even by skip is usually better than similar motion of all the parts, except in repetition of a chord, and in moving to the Leading-tone seventh-chord, where the good arrangement of the chord is all-important.

5. The most objectionable kind of concealed octaves is that *to the resolution-tone of a tendency-tone.* There are but few cases where this effect is good, e. g., V^7 I, when both chords are in fundamental position, and a concealed octave is made with the part that sings leading-tone to tonic.



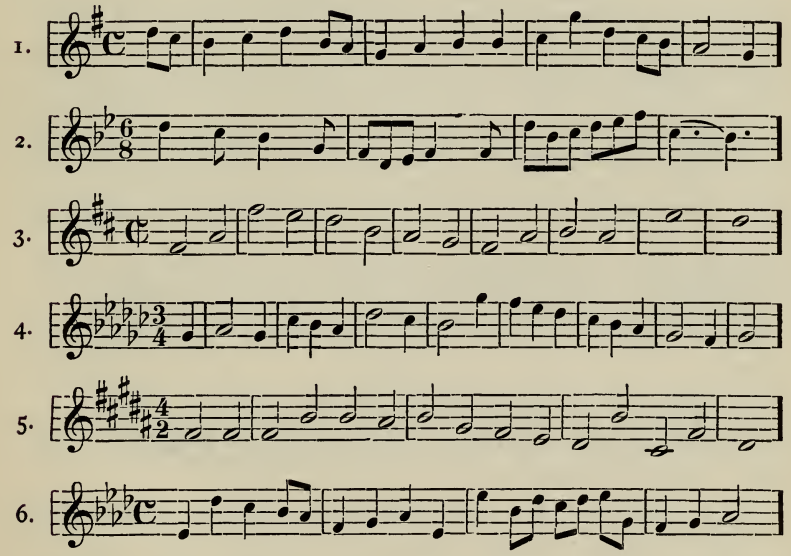
Hence, in harmonizing a skip, avoid using as first chord one with a tendency-tone which would move by similar motion to the octave of the melody-note in the second chord.



EXERCISE 44. Harmonize the following melodies as in the model given below.

NOTE. In the model all possible harmonies are indicated, and then one of the suitable choices is made. Let the student write out possibilities in the same way through two or three exercises, after which only the final choice need be indicated (shown here by *heavy* type).

MODEL.



1 **Exercise 45.** Compose six four-measure melodies in a given scale, without chromatic notes; then harmonize them as the above.

2 Note. Let the student test his melodies, as he composes them, by the principles of melody-formation (p. 70), and in addition take care that the first note of the melody be part of the tonic or dominant chord, and that the last note come upon the accent, and be a note of the tonic triad.

Task VIII.

(To write four-measure cadence-groups, using subordinate seventh-chords.)

All seventh-chords outside of the tendency-group that resolves to the tonic chord, may be classed as **subordinate seventh-chords.** None of them have natural resolutions developed out of the tendency of the dissonant tones, except the two seventh-chords of the minor scale, which are based upon dissonant triads, and which, as seventh-chords, therefore take the same resolution (p. 91, s. 9) as the triad; II°⁷ V and III⁺⁷| VI.

In the absence of such decided tendency, the resolutions given to subordinate seventh-chords are *analogous* to those of the tendency-group to the tonic; that is, there are two usual resolutions: 1st, that to the triad at the fourth above, just as the dominant seventh-chord resolves to tonic; 2nd, that to the triad at the second above, just as the leading-tone seventh-chord resolves to tonic. For example, I⁷| resolves either to IV or to II; III⁷ resolves either to VI or to IV. *Also,* V⁷ *may resolve to* VI, *and* VII°⁷ *to* III. Since the idea of resolution is that the dissonant chord should be followed by a consonant one, it will be seen that IV⁷| resolves better to V than to VII°, and VI⁷ resolves better to II than to VII°.

These resolutions can be formulated, *for all seventh-chords*, as follows:

Rule XIX. A seventh-chord may resolve to a consonant triad the *root of which is a perfect fourth above the root of the seventh-chord.* In this resolution:

a. The seventh of the chord descends one degree to the third of the new chord.

b. The root of the chord, when it is a higher part, remains where it is; when it is the bass, it moves to the new root, up a fourth or down a fifth; or it can remain where it is, making the new chord a second inversion and subject, therefore, to the laws for the use of such a chord (p. 86).

c. The fifth of the chord moves diatonically to the suitable note of the new chord.

d. The third of the chord, when it is an *outer part*, moves up one degree to the root of the new chord; when it is an inner part, it either moves up one degree, or down two, to the suitable tone of the new chord.

Rule XX. A seventh-chord may resolve to a consonant triad whose *root is a minor or major second above the root of the seventh-chord.* In this resolution:

a. The seventh of the chord descends one degree to the fifth of the new chord.

b. The root of the chord ascends one degree to the root of the new chord.

c. The other parts move diatonically to the suitable tones of the new chord; care being used to avoid parallel fifths in the progressions.

These two resolutions of seventh-chords may be called the natural, or normal, resolutions, so much do they predominate in music. The former in particular is the most restful of all resolutions, since the resulting chord is united to the seventh-chord by a note of union. This progression is often called the **cadence resolution** of seventh-chords, as its most prominent illustration is in the cadence-chords V7 I.

But all subordinate seventh-chords are harsher in sound than those of the tendency-group. This harshness is felt most decidedly if the dissonant seventh be approached by skip. Care, therefore, is usually taken to allow the seventh of the chord to approach either as *note of union from the previous chord, or diatonically.*

EXERCISE 46. Write out the following chord-successions according to the rules already given.

MODELS.

MENDELSSOHN: MALE QUARTETTE.

MOZART: MALE CHORUS "Magic Flute."

WAGNER: MALE CHORUS, "Tannhæuser."

1. I | II7 V III7 IV | V V7 VI I|7 | IV II7| V V7 | I – – ||
2. $\frac{3}{4}$ I | IV7 V V|7 | VI| VII|°7° I| | IV II°7 V | I – ||
3. V7||| | I| I7| | IV III7 | VI V7 | I ||
4. $\frac{4}{2}$ I I| V7 | VI – – II°7|| | V V7||| I| V7|| | I – – – | – ||
5. $\frac{6}{8}$ I I7| II VII°7| III VI7| | II II7|| V| I V7 VI | IV II7 III VI7| II V7 | I – – – – – ||
6. $\frac{3}{2}$ I III+ V7 | VI V I| | II°7 V9 V7|| | I – – ||

NOTE. These exercises, as well as *most of those presented in elementary harmony-work*, suffer as music from the crowding together of many illustrations of

the same use of chords. In free composition no one effect is held to throughout a composition. Also, many of these subordinate chords are of very rare occurrence, only II^7 V, IV$^{7}_{I}$ V, I$^{7}_{I}$ IV, and V^7 VI being in common use.

EXERCISE 47. Write six more four-measure cadence-groups like the above, illustrating the same task.

EXERCISE 48. Compose six four-measure melodies in a given scale, and harmonize them, where possible, in illustration of the present task.

NOTE. With the present task any scale-note may be seventh in a seventh-chord, *provided* the following melody-note is on the degree below. See, however, above, s. 2.

Task IX.

(To compose four-measure cadence-groups with freer resolutions of seventh-chords.)

a. The wish to *prevent the restfulness* which a seventh-chord resolution to a consonant triad always occasions, has caused musicians frequently to resolve one seventh-chord into another. In such resolution strict care is to be taken to resolve the seventh according to its tendency, and to bring in the new seventh without skip,—if possible, as a note of union.

It will be observed that, in a series of seventh-chords following one another in *cadence resolution* and in fundamental position, every alternate chord will omit its fifth and double its root.

SIR JOHN GOSS: ANTHEM, "O taste and see."

HANDEL: Samson.

EXERCISE 49. 1. Write out the following cadence-groups illustrating the above paragraph.

1. $\frac{6}{4}$ I | II^7 V^7 VI^7$_{III}$ II$_|$ V^7$_{III}$ I$_|$ | IV^7$_{|III}$ VII^{o7}$_|$ I$_|$ III^7$_{|III}$ VI^7$_|$ II |
V$^{9|}$ I$_{||}$ V^7 VI IV$^{7|}$ V^7 | I – – – – ||

2. $\frac{3}{2}$ I | I$^{7|}$ IV$^{7|}$ VII^{o7} | III^7 VI^7 II^7 | V^7 I V^7 | I – ||

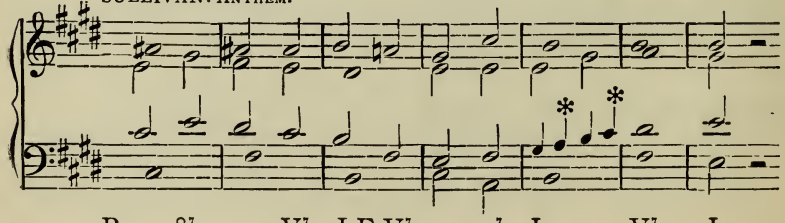
NOTE. Write out this last example, at first with all chords in fundamental position, then again with the first seventh-chord in an inversion, which will, of course, produce another working-out of the following chords.

2. Write two more four-measure cadence-groups illustrating the same use of chords.

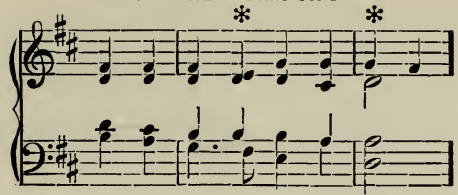
3. Write two four-measure melodies in a given scale, and harmonize them, where possible, to illustrate the above use of chords.

b. Other resolutions of seventh-chords than the two already studied are sometimes acceptable, *provided no violence be done to the tendencies in the chord, and provided the parts all move melodiously.* Such resolutions are specially acceptable when the resolution-chord serves only to delay the appearance of the cadence resolution; e. g., II^7$_|$ I$_{||}$ V, the I$_{||}$ being apparently interpolated between II^7$_|$ and its cadence resolution V.

SULLIVAN: Anthem.

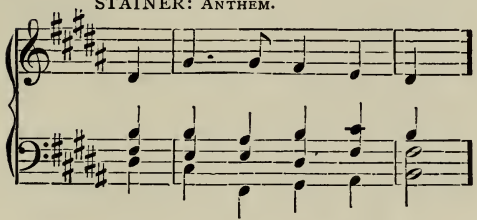


MACFARREN: PART-SONG.



VI I_{II}^{7} IV^{7} II^{7} II^{7} V^{7} I

STAINER: ANTHEM.



$I_{|}$ II^{7} V^{9} VI^{7} V^{7} I

EXERCISE 50. 1. Write out the following cadence-groups, illustrating the above paragraph.

1. $\frac{4}{2}$ I | V^{7} $IV_{|}$ | I $II^{7}_{||}$ | $I_{||}$ V^{7} | I ||

2. $\frac{3}{2}$ I II^{o7} | $I_{|}$ $IV^{7}_{|}$ $II^{o7}_{||}$ | $III^{+}_{|}$ V^{7}_{III} $I_{|}$ | IV^{7}_{III} II^{o7} V^{7} | I ||

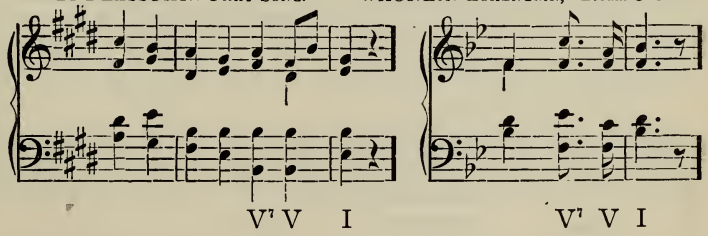
2. Write two more four-measure cadence-groups illustrating the same use of chords.

3. Write two four-measure melodies, and harmonize them, where possible, to illustrate the above use of chords.

c. Occasionally its triad alone is inserted between a seventh-chord and its resolution.

MENDELSSOHN: PART-SONG. WAGNER: LOHENGRIN, "Bridal Chorus."

E. g.:

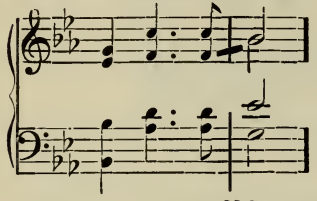


V^{7} V I V^{7} V I

d. Finally, with the regular chord-resolutions, liberty is sometimes taken in the movement of the parts, in order to bring about a more advantageous arrangement of the resolution-chord.

1 In the resolution of VII^{o7} to I, for example, the third or the fifth of the chord frequently enters the new chord by skip.

MENDELSSOHN: PART-SONG.



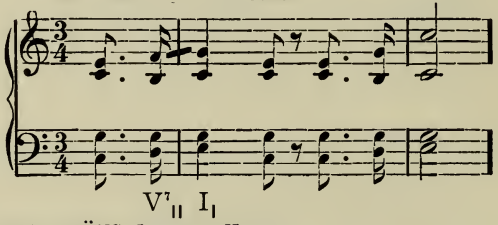
VII$_{II}^{o7}$ I$_{I}$

REDHEAD: GETHSEMANE.

IV VII$_{II}^{o7}$ I

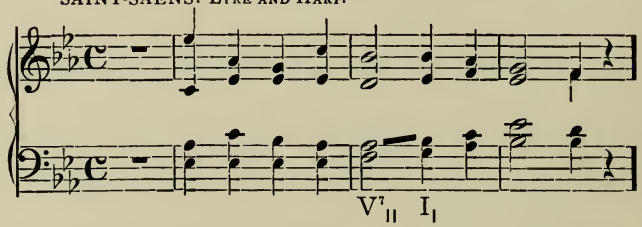
2 In the resolution V^{7} I the seventh may even resolve diatonically upward, contrary to its tendency.

MACFARREN: PART-SONG.



V$^{7}_{II}$ I$_{I}$

SAINT-SAËNS: LYRE AND HARP.



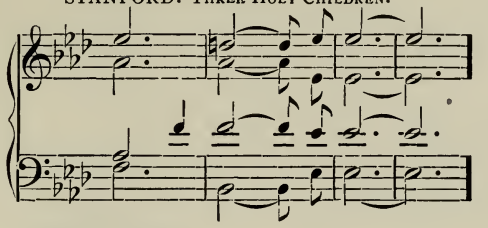
V$^{7}_{II}$ I$_{I}$

3 This is almost invariably the case when the V^{7} is in fundamental position and the I in first inversion, and is resorted to in order to avoid the concealed octaves to the resolution-tone of a tendency-tone (see p. 100, s. 1).

HANDEL: MESSIAH.

The seventh or the ninth of a chord is sometimes left by skip, with no apparent resolution given at all. This can happen only when the ear recognizes and supplies the true resolution unconsciously, and when, therefore, there is no hindrance in the structure of the following chord to such a mental resolution. A successful use of this device is as rare as it is beautiful.

STANFORD: THREE HOLY CHILDREN.



WESLEY: ANTHEM.

SEMET: LA PETITE FADETTE.

BARNBY: HYMN-TUNE.

EXERCISE 51. 1. Write out the following cadence-groups illustrating the last two paragraphs.

1. $\frac{\mathrm{C}}{\mathrm{C}}$ I | V^7_{II} I_I IV vii^{o7}_{II} | I II V V^7 | I_I II^7_I III_I V^7 | I – – ||

2. $\frac{6}{8}$ V^7 | I_I I_I II^{o7} V^7 III^+_I V^7_{III} | V^7_{II} I_I IV^7_{III} II^{o7} – V^7 |

vii^{o7o}_{II} – I vii^{o7o}_{II} V^9 V^7 | I – – – – ||

2. Write two more four-measure cadence-groups illustrating the same use of chords.

3. Write, also, two four-measure melodies, and harmonize them, where possible, to illustrate the above use of chords.

THE CADENCE.

1 The rhythmic significance of cadences has already been presented (pp. 51, 52); it remains to discuss the harmonic means of constructing cadences.

The Final Chord.

2 The *strength* of a cadence depends in large part upon the tonal
3 and rhythmic restfulness of the final chord of the group. It is evident, therefore, that the strongest cadence will have the *tonic triad in fundamental position on the strongest accent of the final*
4 *measure.* Also, the more prominent the *tonic tone* is made, the better; for example, if it be the soprano as well as the bass note.
5 When the strongest possible effect is desired, all four parts may
6 unite on the tonic tone, abandoning the harmony. But, on the contrary, an inversion of the final chord would be so weak as almost to obliterate the impression of a cadence.

7 Cadences of less strength than the Tonic Cadence may be made by using as final chords either the Dominant Triad, the Subdominant Triad, the Submediant Triad, subordinate to the tonic, or, rarely, the Supertonic Triad.

8 A cadence can also be weakened by having the final chord
9 upon a *weaker measure-accent.* To have the final chord *unaccented*, however, would entirely destroy the cadence-rhythm.

The Preliminary Chords.

10 The chords which precede the final cadence-chord should be
11 those *which lead naturally into it.* Thus, for the Tonic Cadence: V(7)* | I; IV | I; or (see p. 91, s. 8) VII°| | I; for the Dominant Cadence: II(7) | V; VI | V; IV | V; or I_{II} V (see p. 86, ss. 4–6); for
12 the Subdominant Cadence: I(7) | IV. The cadence is strongest when these preliminary chords are likewise in fundamental position (except the VII°| | I, see p. 91, s. 2).

13 The Tonic Cadence which uses the dominant as a preliminary chord is the *most valuable tonally, and is used far more frequently*
14 *than any other cadence in music.* It is called the **Authentic Cadence**, in distinction from that Tonic Cadence which uses the subdominant as preliminary chord, the latter being called the **Plagal Cadence.**†

---

15 * Parentheses around the 7 indicate that the chord may appear with or without its seventh.

16 † The names Authentic and Plagal come from early ecclesiastical music. See Musical Dictionaries.

When both cadence-chords are in fundamental position, and the tonic chord has also its root for soprano note, the cadence is called **Perfect.**

The Submediant Cadence uses the dominant as its preliminary chord, and since it seems like an Authentic Cadence (one in which the subordinate has been substituted for the principal final chord), it is called a **False, Deceptive,** or **Interrupted Cadence.**

The Dominant Cadence is sometimes called the **Half-Cadence,** from the notion that it leaves the music midway of a Tonic Cadence.

The Extended Cadence.

Although but two chords, in the right rhythmic position, are necessary to produce the cadence-effect, yet musicians have made such frequent use of certain chords to introduce the preliminary (cadence)-chords that one feels the cadence-impression even before reaching the last two chords. This so-called *extension of the cadence* is usually an extension of the Authentic Cadence, or of the Half-Cadence, by means of any of the preliminary chords to the dominant. When the chords IV or II come before the V in a Tonic Cadence, the whole cadence (IV V | I, or $II^{(7)}$ $V^{(7)}$ | I) is called a **Full Cadence,** since all the notes of the scale are used in the course of it.

A valuable extended cadence of seven chords is as follows:— I VI IV $II^{(7)}$ I_{II} $V^{(7)}$ | I ||. Any or all of these chords, except the last two, can be omitted to make it into a six-chord, five-chord, etc., cadence; the chords used coming in the order above given. And, of course, any of the chords may be repeated to extend the cadence still further.

Special Treatment of Final Chords.

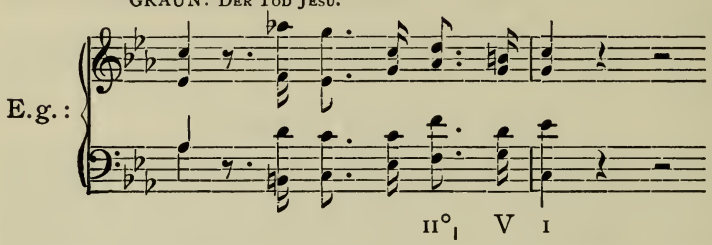
Although the idea of cadence is that of rest, which would therefore require a consonant triad for final chord, yet in unimportant cadences, where it is desired to avoid distinct breakage of the harmonic flow, *if the rhythm is strong* the final chord may appear as a seventh-chord which resolves in the next group (see illustration of supertonic cadence below); or what should have been the final chord may be followed, within the same rhythmic group, by unaccented chords introductory to the following group.

NOTE. What other arrangements of cadence-chords can be made, need not be here discussed. The student who has mastered the use of chords in general, and the significance of the cadence, can be safely trusted to determine whether other chord-combinations, which he may desire to use, fulfil the conditions of a successful cadence.

Scheme of the More Usual Cadences.

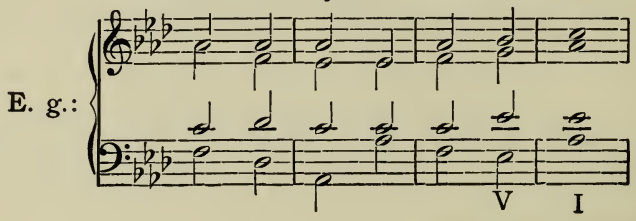
1 *Perfect Authentic Cadence:* $V^{(7)} \mid I$; chords in fundamental position, final chord with root also in soprano.

GRAUN: DER TOD JESU.



2 *Imperfect Authentic Cadence*, as above, but with third or fifth of the final chord in the soprano; also, the preliminary chord may be an inversion.

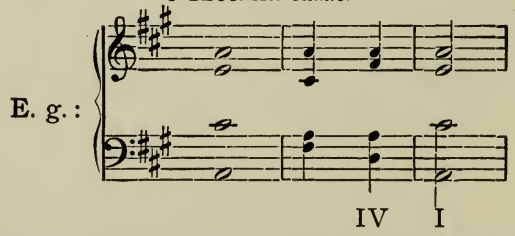
GRAUN: DER TOD JESU.



3 *Plagal Cadence:* IV | I.

Perfect Plagal.*

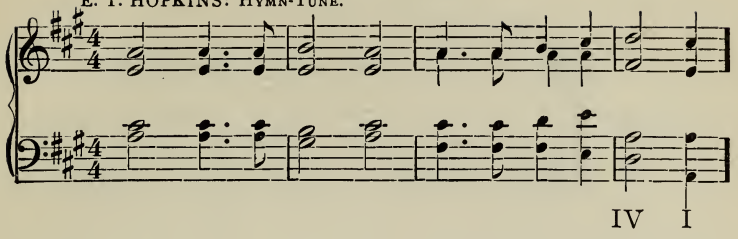
C. ZEUNER: CHANT.



4 * Rarely used except for the final "Amen" chords in sacred music.

Imperfect Plagal.

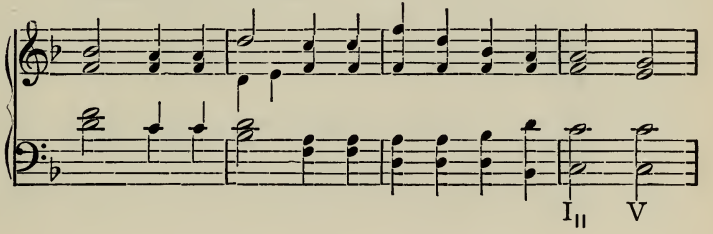
E. T. HOPKINS: HYMN-TUNE.



1 *Dominant* or *Half-Cadence:* a suitable preliminary chord | V.

MENDELSSOHN: ST. PAUL.

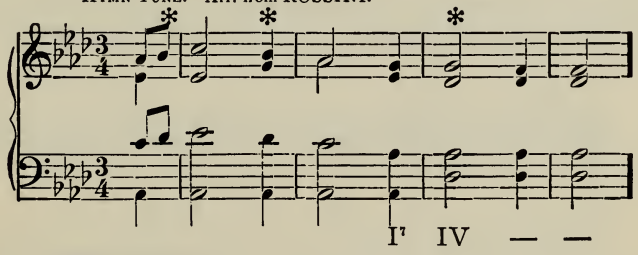
E. g.:



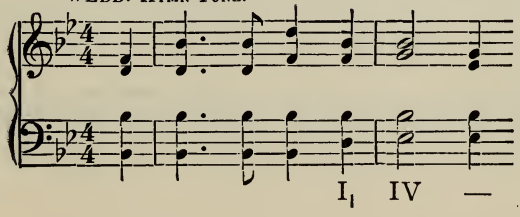
2 *Subdominant Cadence:* a suitable preliminary chord | IV.

HYMN-TUNE. Arr. from ROSSINI.

E. g.:



WEBB: HYMN-TUNE.



1 *Submediant or Deceptive Cadence:* $V^{(7)}$ | VI.

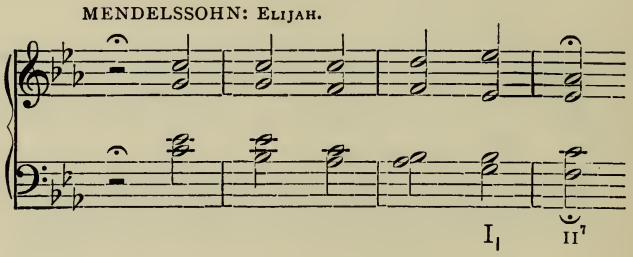
MENDELSSOHN: ELIJAH.

E. g.:

2 *Supertonic Cadence:* a suitable preliminary chord | II.

MENDELSSOHN: ELIJAH.

E. g.:



3 The first illustration (p. 112) is also an example of the *Full*
4 Cadence. Several of these illustrations are extended cadences.
5 The following is an example of the seven-chord cadence:

6 **EXERCISE 52. Analyze all the cadences in this book, and in other vocal writings, until the nature of the cadences can be instantly recognized.**

Task X.

(**To compose four-cadence periods, in a given key, with the harmonic material already mastered.**)

As to the alternation of strong and weak cadences, see p. 52. It is often the case, though by no means necessarily so, that the third cadence is weakest of all, in order to heighten the climacteric effect of the final cadence.

The cadence-groups may be but two measures in length if the accent-grouping is compound, although sixteen-measure periods are not uncommon even in double-compound accent-rhythm.

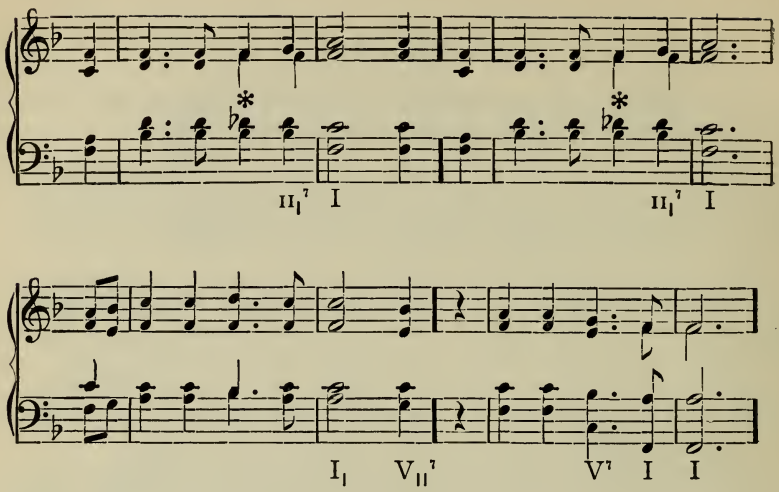
Four-line verses are usually set to music in four-cadence periods, and the student may, if he desires, write many of the exercises henceforward to words, religious or secular.

NOTE. Since this book is not a treatise on composition, it would be out of place to enter into a discussion of the principles of the adaptation of words to music. If the student is unable to discover the correct rhythm to fit such words as he may choose, it will be well to postpone the endeavor to write with words, unless the teacher can briefly put him on the right track.

EXERCISE 53. Write a number of four-cadence periods in given keys, both major and minor, some in simple, and some in compound accent-rhythm; the student choosing suitable chords, cadences, etc.

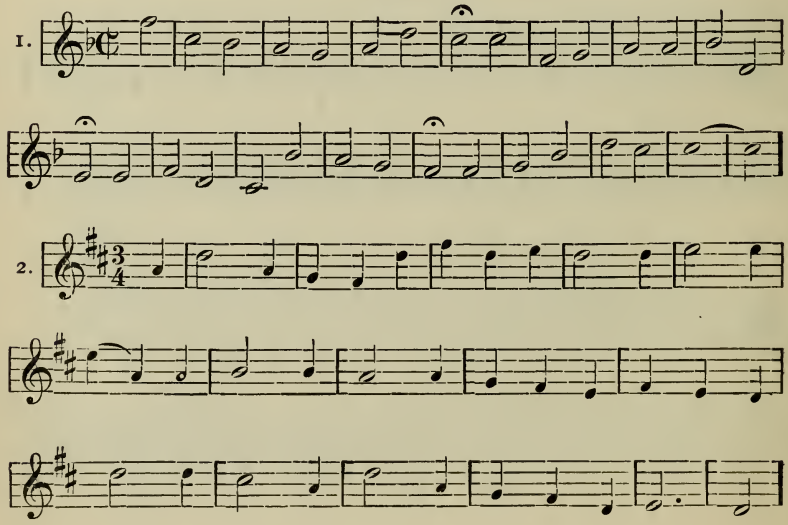
MODELS.

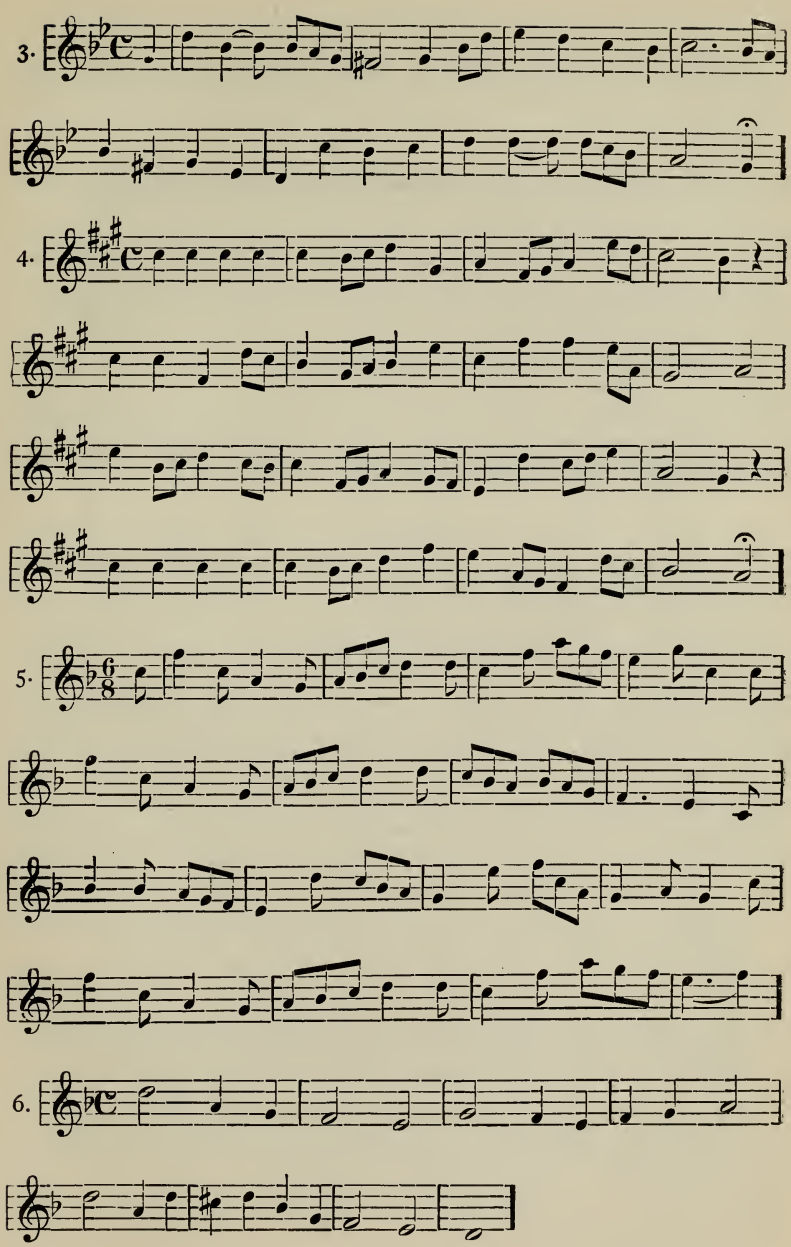
E. F. RIMBAULT: HYMN-TUNE.



1 EXERCISE 54. Harmonize the following melodies.

2 NOTE. Let the student first of all analyze the rhythm, and determine where the cadences come, and of what sort they can be.




3.
4.
5.
6.

MODULATION.

Modulation is the process of replacing the impression of one key with that of another, without a break either in melody or in chord-succession.

Modulation is freely used as a means of variety and richness, even within the limits of a single period. In fact, a four-cadence period in which there is no modulation is decidedly the exception.

It is, of course, possible to gain variety of key within a period by direct *transition*, closing one cadence-group in a given key, and starting the next one boldly in the new key; but such a device is suitable only after the cadence-effect has brought the first key to a restful finish.

In modulation two things are necessary; first, a transition-chord, by means of which smooth entrance into the new key is obtained; second, a cadence in the new key, by means of which the impression thereof is established. *The modulation is not made until both processes are complete.*

Task XI.

(To compose cadence-groups, with modulation through chords common to the two keys.)

The simplest modulation possible is through a chord common to the two keys. The process of reaching this chord is simple part-writing in the first key; the process of leaving it, simple part-writing in the new key. Aside from the recognition of what keys may be entered through the medium of a given chord, there is, therefore, no new material in the present task. A list of the keys that may be entered thus is given on pages 141 and 142.

EXERCISE 55. In the exercises of tasks IV, VI, and VIII write under each chord all the possible keys to which the chord might belong (see pp. 66 and 67).

MODEL.

G – I	V^7	vi	$IV^{7|}$	vii^{o7}	ii^7	V^7	I
D – IV	g - V^7	D-ii	C - $I^{7|}$	e-ii^{o7}	F-iii^7		
C – V		C-iii	e-$VI^{7|}$		C-vi^7		
c – V		e - i			e - iv^7		
b – VI		b - iv					

1 **EXERCISE 56. Copy out the first three, four, or five chords in the exercises treated as above, and choosing one out of the possible keys to which the last chord copied could belong, complete the cadence-group with a Tonic Cadence in the new key.**

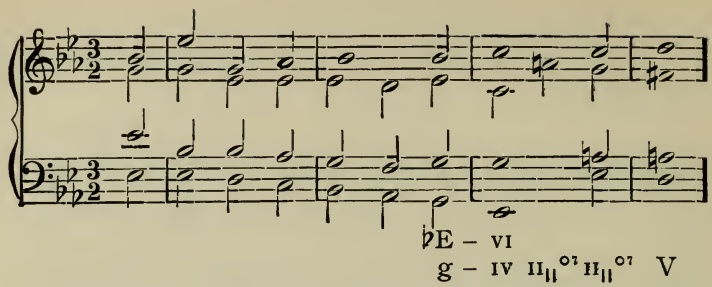
MODELS.

2 NOTE. Observe that since the signature for the old key remains in force, accidentals must be used wherever notes of the new scale contradict the old.

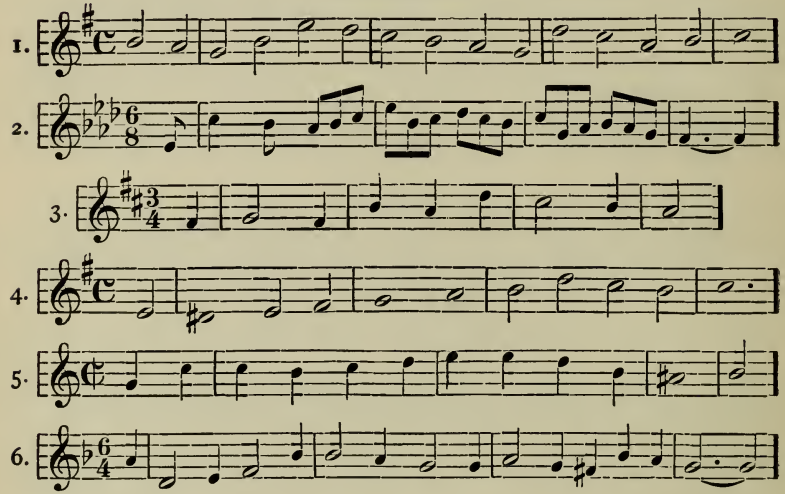
3 In harmonizing a melody, modulation by means of a chord common to the two keys can be made, *provided the remainder of the melody lies in the new key, and the last two notes of it are parts of possible cadence-chords in the new key.*

4 **EXERCISE 57. Harmonize the following melodies with modulation through a chord common to the two keys.**

MODELS.



EXERCISES.



Rhythmic Place for Modulation..

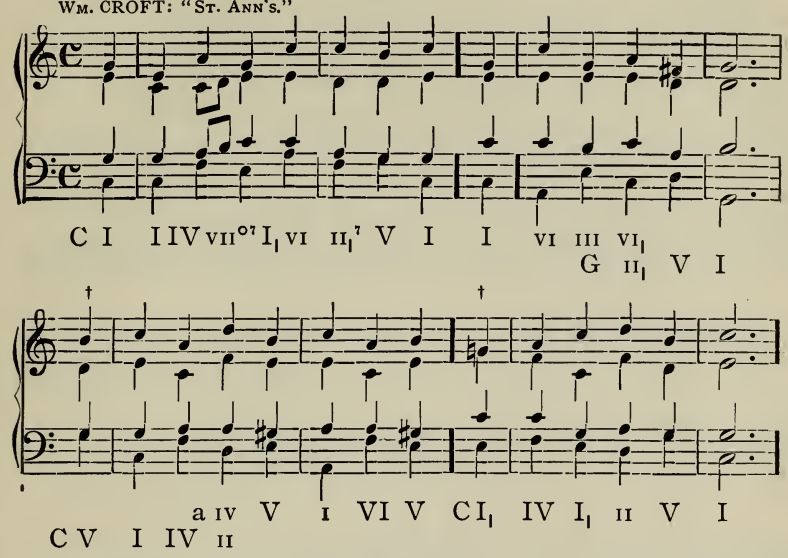
In composing a period of music it is necessary, for the sake of unity, that it begin and end in the same key. That is, the law of tonality is illustrated on an enlarged scale when a group of keys is used, by requiring allegiance to one key as the controlling one in which the music shall begin and end, and in which the greater part of the music shall be written.

In conformity to this general law, if a composition does not exceed the limits of a single period, the first and last cadence-groups will almost invariably be wholly in the original key. The other cadence-groups may either modulate or make transition to new keys. It will be readily seen that if a modulation be made into a new key, either transition or modulation is necessary in returning to the original key.

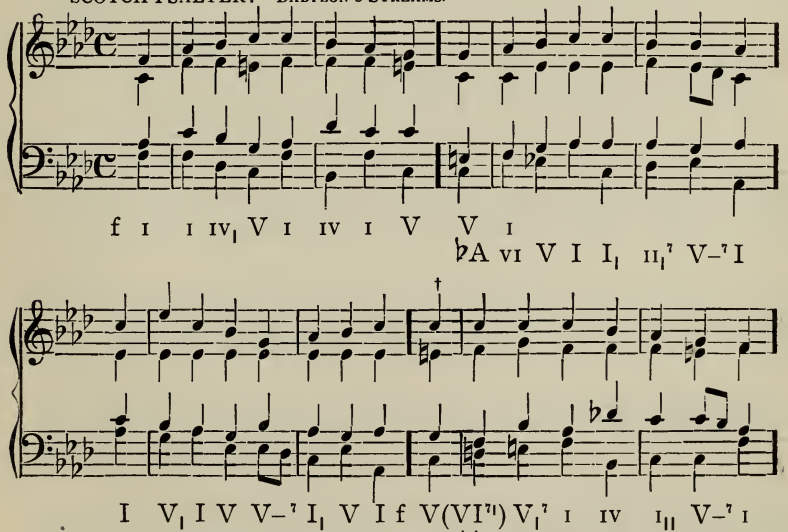
1 **Exercise 58.** Compose four-cadence periods, with modulations, in accordance with the principle just stated.

MODELS.

Wm. CROFT: "St. Ann's."

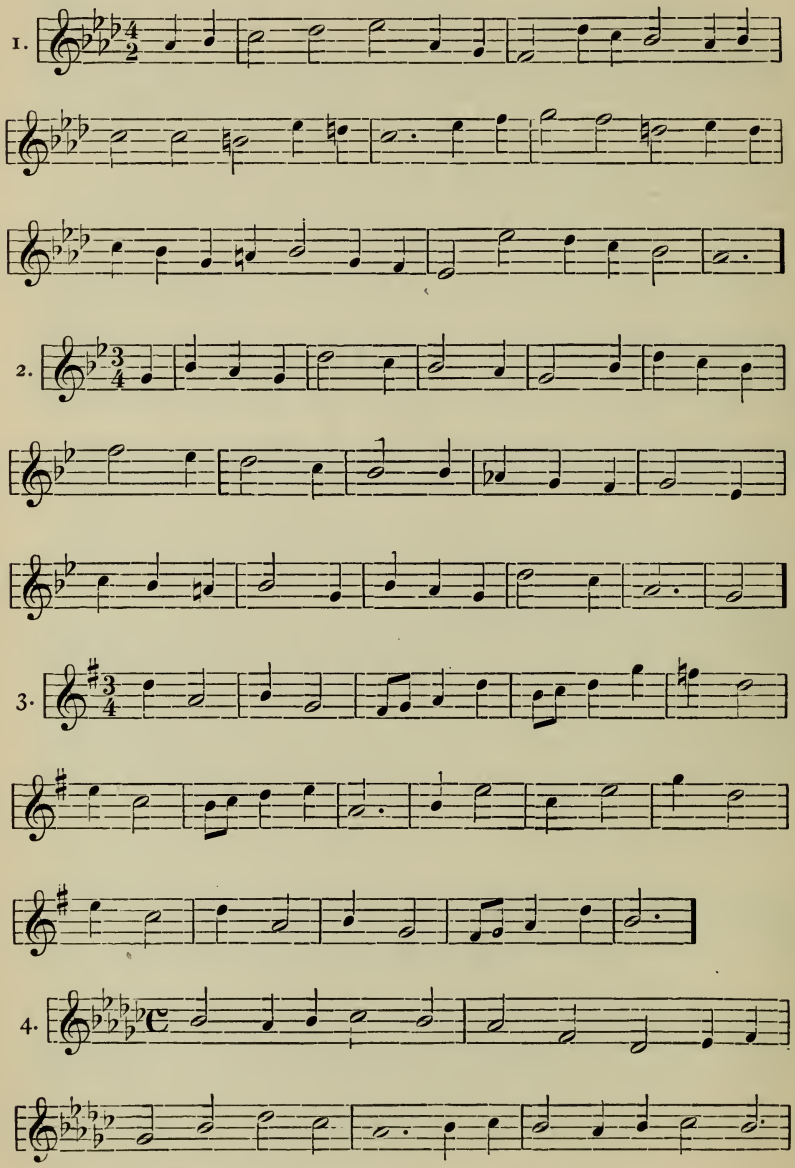


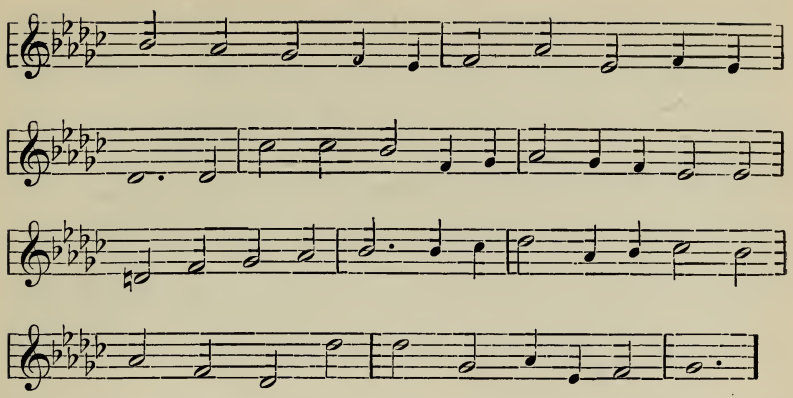
SCOTCH PSALTER: "Babylon's Streams."



† Transition. †† Altered to melodic minor scale.

1 EXERCISE 59. Harmonize the following melodies with modulations in accordance with the principles just stated.





EXERCISE 60. Write four-cadence melodies like the above, and harmonize them with modulations.

NOTE. The student should first submit the melodies to the judgment of the teacher, and then, if they be found suitable, proceed to harmonize them.

Task XII.

(To compose sequences.)

SEQUENCES.

A **sequence** is the repetition of the melodic effects of a group of chords, the repetition taking place according to certain rules, as follows:

a. The original statement of the chords is called the *model.* The model must always occupy exactly one or more accent-groups, so that the corresponding chords of the repetitions shall have the same accentuation as the chords of the model. It is composed according to the ordinary rules of part-writing.

b. The first chord of the first repetition must have the same arrangement as the first chord of the model, and must succeed the final chord of the model without violating any rules of simple part-writing, although great freedom in skip is allowable *except from tendency-tones.*

c. The first chord of every successive repetition must stand the same number of degrees above (or below) the first chord of the previous repetition, as that of the first repetition stood above (or below) the first chord of the model. Thus, cadences are

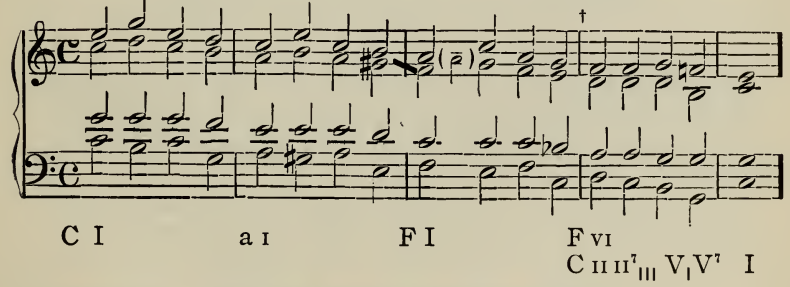
either *ascending* cadences throughout, or *descending* cadences throughout.

1 *d.* The following chords of every repetition must stand related to each other exactly as the corresponding chords of the model do, and the *melodies made in chord-progressions must maintain the same intervals.*

2 A **strict sequence** requires every chord of a repetition to be of exactly the same character as the corresponding chord of the model; that is, major triad answering to major triad, diminished 3 seventh-chord to diminished seventh-chord, etc. Hence, strict sequences almost invariably involve a change of key. Thus:

4 A **free sequence** merely requires that the chords and melodies shall maintain the same relative scale-degrees, but a minor chord 5 may take the place of a major, etc. Free sequences can therefore be constructed without overstepping the limits of a single key; and the variety of chord-effects which is thus secured without sacrificing the similarity of melodic effects, constitutes the great- 6 est charm of such sequences. But this very variety brings it about that if a composer desires to use the free sequence in a single key, at least two repetitions should follow the model, in order to accustom the mind to the sequence-idea.

1 A free sequence may also be constructed with change of key.



2 **EXERCISE 61. Write sequences on the following models.**

1.

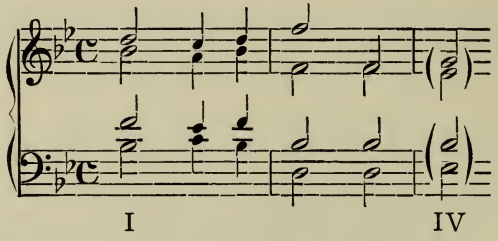
3 Add three repetitions of a strict sequence, and complete with
4 a tonic cadence in the last key used. On the same model add

three repetitions of a free sequence, all in the original key, and complete with a tonic cadence.

2.

1 Add six repetitions of a free sequence in the original key, and complete with tonic chord.

3.



2 Add two repetitions of a strict sequence, and complete with a cadence in the *original key*.

3 **EXERCISE 62. Compose short models of sequences, and write out the sequences.**

Task XIII.

4 **(To write cadence-groups, making use of chromatic tones.)**

CHROMATIC OR ALTERED CHORDS.

5 The *chromatic tones* of a scale are used in two ways; either as inharmonic tones (see p. 64, s. 11, and p. 155), or in alteration of
6 scale-chords. The purpose of this alteration is to increase the inclination of the chord toward that which is to follow; and it therefore always creates, or emphasizes, a melodic tendency in the part which uses the chromatic tone.

7 For example, the ♯a in the following example increases the inclination of the tonic chord to the subdominant.

FLEMING: Male Quartette.

1 **Note.** For the proper way of writing chromatic tones see p. 15, s. 11, et seq.

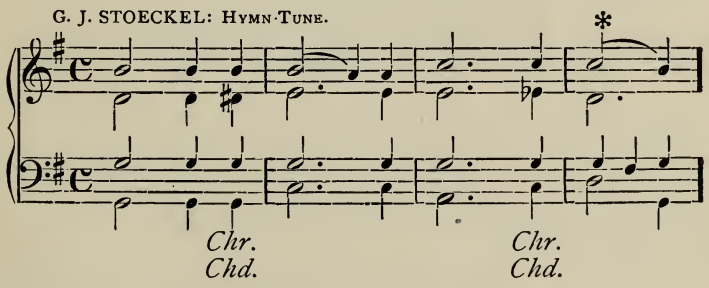
Modulation through Chromatic Progression.

2 While chromatic tones of a scale are freely used without implying any change of key, modulation is not infrequently effected by chromatic tones which transform the chord into a chord of the new key, or which even make the chord into a chord not
3 diatonic in either key. But, of course, good melodic progression *into the chromatic chord*, as well as *out* of it, is necessary.

4 **Exercise 63. Write cadence-groups, using chromatic chords, both without and with modulation.**

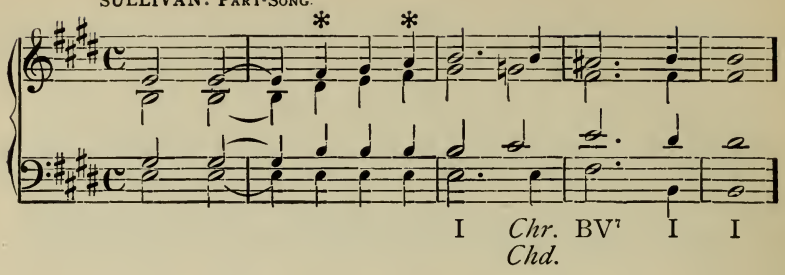
MODELS.

G. J. STOECKEL: Hymn-Tune.



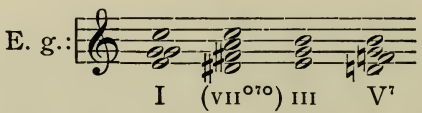
BARNBY: Male Quartette.

SULLIVAN: PART-SONG.



Attendant Chords.

1 By far the most interesting and useful of the altered chords
are those which are *made chromatically into tendency-chords*, in
sound identical with the group already studied (VII°, V7, VII°7,
2 V9|, VII°7°, V9), which resolve to the tonic. Thus, in the key of
C any of the consonant triads (e. g., III) may be preceded by
a chromatic tendency-chord which stands related to it as if it (III)
were tonic and the chromatic chord were the V7, etc., in its
scale.



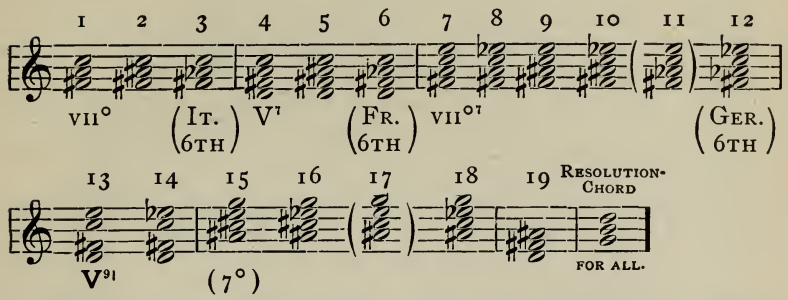
3 Moreover, since every chord of the tendency-group to the tonic
may itself have its tendency increased by chromatic alteration,
the number of chromatic tendency-chords usable in a key is so
large as to allow great variety and beauty without involving any
actual modulation.

4 To distinguish these chromatic tendency-chords from the reg-
ular tendency-chords of the scale, they may be called **Attendant**
5 **chords.** There are several of these in addition to the group just
spoken of, and for the sake of completeness they also will be
included among the attendant chords displayed below.

6 The use of attendant chords adds greatly to the richness and
melodiousness of music, and the series here presented should be
carefully studied, one by one, *and mastered.*

Attendant Chords Resolving to a Major Triad.

TABLE.



1 Note. The table shows attendant chords to the triad of G. Attendant chords to any other major triad are similarly formed.

2 Chords 1, 4, 7, and 13 are not chromatic in the key of G, but the remainder are; chord 19 is not chromatic in the key of b; but they all are chromatic in any other major key.

3 Chords 2, 5, 9, 10, 15, 16, 17, 18, and 19 have given to a note otherwise free a chromatic tendency to the third of the resolution-chord.

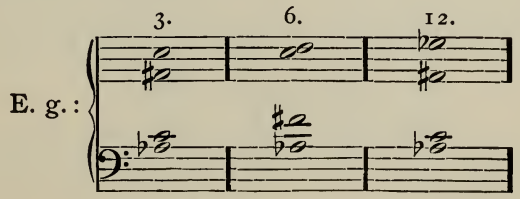
4 Chords 3, 6, 11, and 12 have given to a note otherwise free a a chromatic tendency to the root of the resolution-chord.

5 Chords 8, 10, 12, 14, 16, and 18 have given to a note. which already tended to the fifth of the resolution-chord, an added tendency.

6 Chords 15 and 16 have given to a note otherwise tending downward a chromatic tendency upward to the fifth of the resolution-chord.

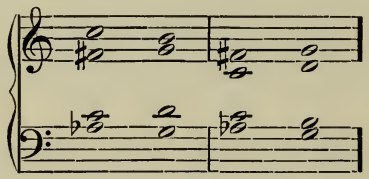
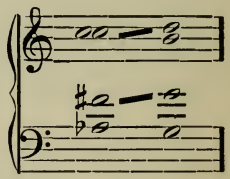
7 A few of these attendant chords are of very rare occurrence,
and some of them have acquired popularity only in modern
8 writing. But several of them have long been known, particularly in certain arrangements.

9 Chords 3, 6, and 12, for example, when using as bass note the chromatic tone which tends *downward* to the root of the resolution-chord, are extremely well known.

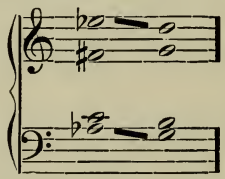


1 Although all attendant chords may be attendant to a triad *wherever in the scale it is found*, yet these three chords, used as above stated, have generally been attendant to the *dominant*
2 *triad.* They are usually called, respectively, the Italian, the French, and the German Sixth-chords, supposedly from the
3 schools of composition in which their use originated. The discussion of certain limitations in their arrangement and resolution, due to the increase of tendency-notes in the chord, will serve to illustrate the same peculiarity in all other attendant chords.

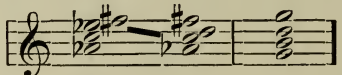
4 Chord 3 (Italian Sixth-chord). All of its tones have tendency, but the fifth of the chord has the least; hence, in four-part harmony, the fifth alone can be doubled, one of the tones then
5 moving diatonically upward. The same care must be exercised to avoid parallel fifths, as was necessary in the case of the lead-
6 ing-tone triad (p. 91, s. 6). Hence, both of the fifths should not be above the *root.*

Good:  But not: 

7 Chord 12 (German Sixth-chord). All of its tones have ten-
8 dency. The direct resolution as German Sixth produces parallel
9 fifths. It was the habit of earlier writers, who felt keenly the unpleasantness of this progression:



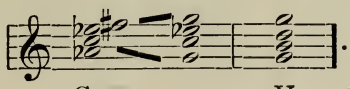
to interpolate another chord between this chord and its resolution; namely, either the French Sixth (chord 6), which merely required the resolution of the seventh of the chord in advance of the rest:



GER. FR.

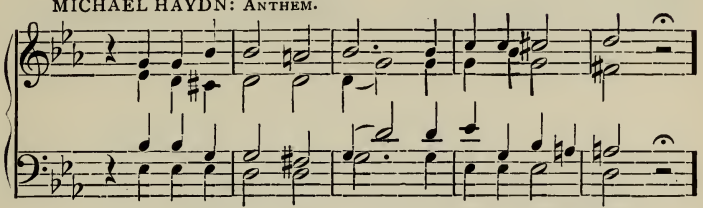
or a second inversion of a triad at the fourth above the resolution-

chord, which required the resolution, in advance of the rest, of both of the notes which tend to the new root.



MICHAEL HAYDN: Anthem.

E. g.:

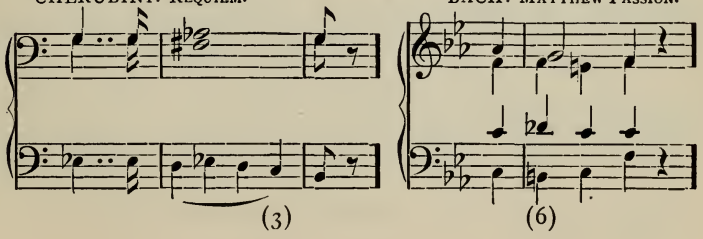


1 Modern writers, however, make the direct resolution quite freely, *unless the parallel fifths lie in bass and soprano*, and are
2 thus very obvious. In defense of this practice it is to be said, that the parallel fifths do not occur in both the chords between root and fifth (see p. 78, s. 1), while the strong tendency of each note makes the direct resolution very acceptable in either part.

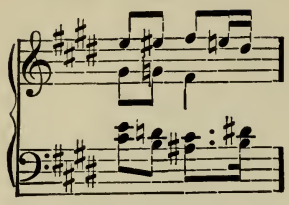
3 All of these chords are used likewise with other notes of the chord in the bass.

CHERUBINI: Requiem. BACH: Matthew Passion.

E. g.:

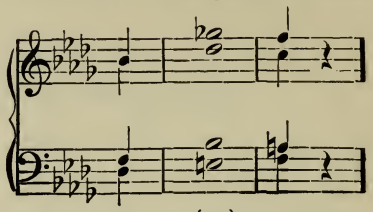


SPOHR: CALVARY.



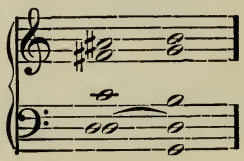
(12)

REINECKE: HAKON JARL, (male chorus).

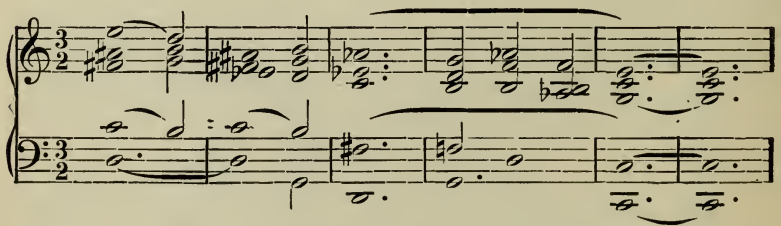


(12)

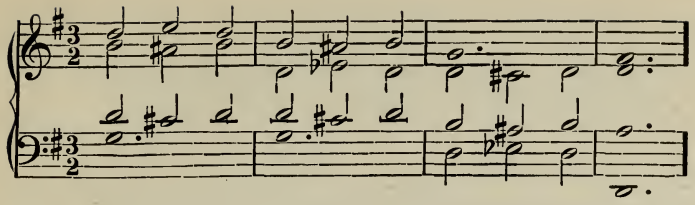
Chord 5 is one of the most beautiful of the attendant chords. Its frequent use is comparatively modern. To avoid the harshness of too close harmony (p. 67, s. 14), the fifth and seventh should be written so as to resolve at octaves. The richest arrangement of the chord is in fundamental position with fifth in soprano. If then the root be doubled, making *five-part harmony*, the resolution is particularly fine.



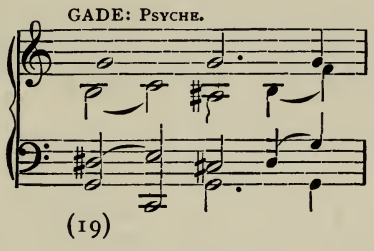
Chords 13 and 14 are displayed in the table as four-part harmony, with fifth omitted. Of course, in five-part harmony, the fifth, being present, could also be chromatically treated, as in the other chords. In any case, the chords are most valuable in fundamental position.



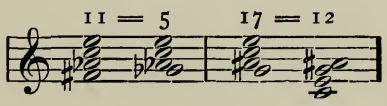
Chords 15 and 16 are used almost entirely as attendants to the tonic chord.



1 Chord 19, altered from the major triad, becomes a tendency-chord to the fourth degree above (cf. p. 126, s. 6):

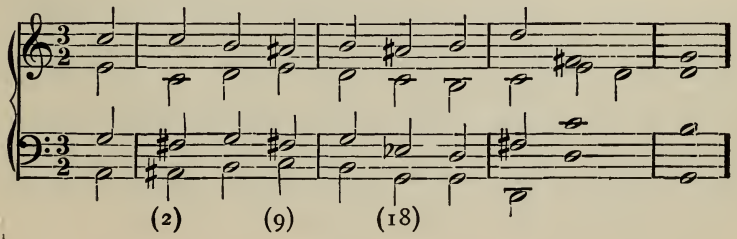


2 Chord 11 is enharmonic to chord 5, but with another tendency, i. e., written as the attendant to an entirely different triad; while chord 17 is identical with the German Sixth-chord, but with another tendency:

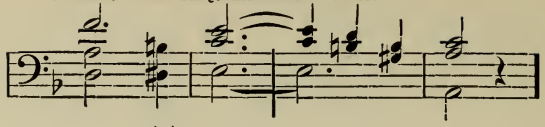


3 The latter chords (5, 12) are so much stronger than the former, however, that the resolutions of the former sound forced; hence, these chords (11, 17) are rarely employed.

4 Chords 2, 9, and 18 are not very frequently met with. They
5 are, however, available, if care is taken to avoid too close harmony (cf. chord 5, p. 132, s. 3):



CHERUBINI: REQUIEM for Male Voices.



(2)

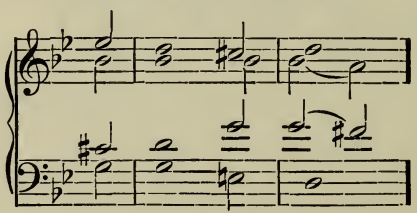
Attendant Chords Resolving to a Minor Triad.

It will be readily recognized as a general law of chord-relationships, that the more strongly dissonant a chord is, the more evidently consonant should be its resolution. Chromatic chords, therefore, find their most satisfactory outcome in a *major triad* (the *natural* consonant chord). Those, alone, which could stand as tendency-chords to the tonic of a minor key, find equally satisfactory resolution to a minor triad.

TABLE.

Chords 1, 4, 8, and 14, therefore, can serve as attendant chords to a minor triad as well as to a major triad.

Chords 20 and 21 are enharmonic to 15 and 16, but written as attendant chords to the tonic of a minor key.

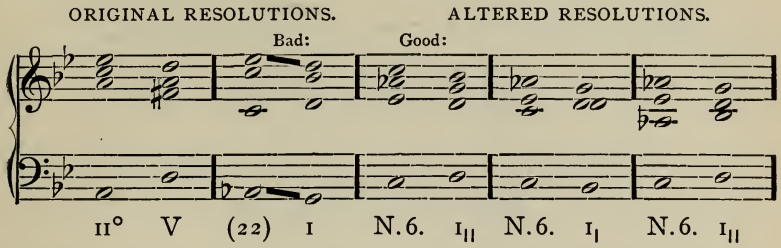


(21) (20)

Chord 22 is a chromatic attendant chord to the tonic of a minor key, altered to this end, as follows: The supertonic triad (II°) is dissonant, and its fifth has, therefore (p. 71, s. 3), strong tendency to the dominant note. The usual resolution of the chord is to the chord of the dominant, but by giving the root chromatic tendency to the tonic note there results necessarily* the tonic triad. It will, however, be seen at once, that if the

* Let the student answer "why necessarily?"

chord be taken in fundamental position and directly resolved, parallel fifths of the most objectionable sort (*each being between*
1 *root and fifth of the chord*) result. To avoid them, the chord is taken in first inversion, and its resolution either in first or second inversion.



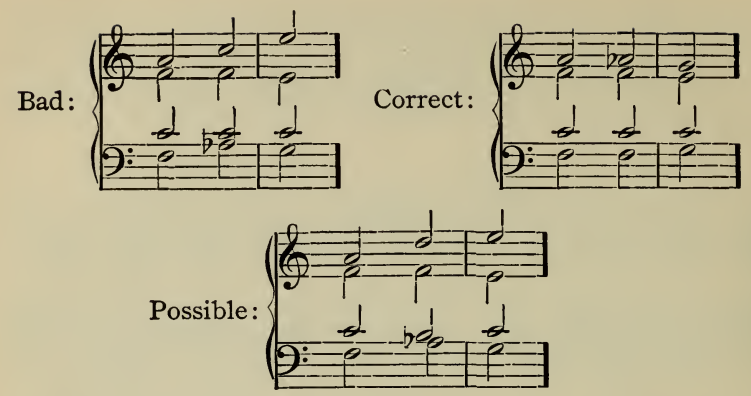
2 This chord is also well known, and has been called the Neapolitan Sixth, from its supposed origin.

Introduction of Attendant Chords.

3 Since attendant chords are used as an enrichment of melody and harmony, great care should be taken to introduce them
4 properly. The best chord to precede an attendant chord is the
5 scale-chord from which it is chromatically altered. But, if the chord which precedes an attendant chord would make correct progression to that which follows, in case the attendant chord were omitted, then movement into a good arrangement of the attendant chord is always correct, even if it involve wide skips or augmented intervals to the tendency-notes of the chord. (See the first attendant chord in the model example, on page 136.)

Inharmonic Cross Relation.

6 There is a peculiar melodic fault liable to occur in the use of
7 chromatic tones, called the **inharmonic cross relation.** This obtains when a note has been quitted in one chord by a certain voice, and the *chromatic alteration* of that note or of its octave is taken by another voice in the next or even the second chord.
8 Objection to this effect is not usually felt, however, when the voice quits the note in one direction and the chromatic alteration
9 is a tendency-note in the other direction. Several other exceptions to the faultiness of cross relationship might also be mentioned.
10 But the places where it is a fault appeal to the ear instantly, so that there is need only to call attention to the nature of the infelicity, which, being recognized, can readily be corrected *by retaining the alteration in the same voice* which sung the original note.



1 **EXERCISE 64.** Rewrite the exercises of tasks **I, III,** and **IV,** inserting after each chord a suitable attendant chord to the next.

MODEL.

Modulation by Means of Attendant Chords.

1 Attendant chords furnish specially satisfactory introductions to the tonic chord of a new key, particularly those attendant chords which are diatonic in the new key (chords 1, 4, 7, (8), 13,
2 (14)). That is, the resolution-chord of an attendant chord may always be used as tonic of a new key, and a modulation estab-
3 lished by adding a cadence in the new key. This may be done even by use of an attendant to a chord which was not in the original key, *provided the attendant chord itself is introduced with very smooth melody.*

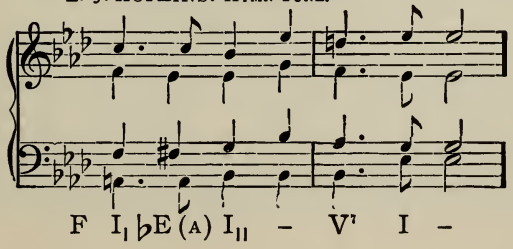
4 The most valuable of the attendant chords for this purpose is chord 4, which becomes the dominant chord of the new key.
5 Modulation through this chord is so much stronger than through the other attendant chords, that when they are used they frequently resolve first to it (V^7) before reaching the new tonic (cf. p. 97, s. 5).

6 **EXERCISE 65. Write cadence-groups making modulation through attendant chords to the new tonic.**

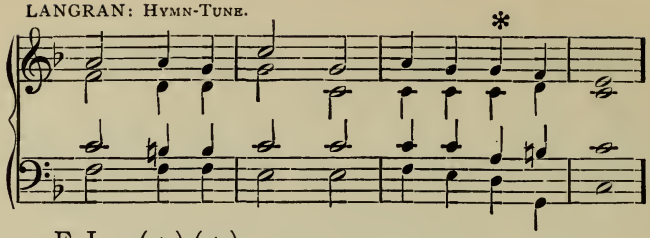
MODELS.

SCHEFFLER: HYMN-TUNE.

E. J. HOPKINS: HYMN-TUNE.



LANGRAN: HYMN-TUNE.



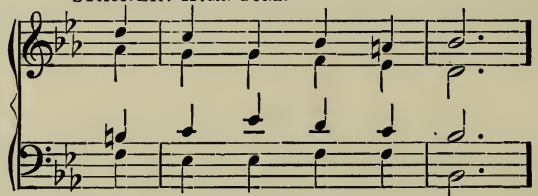
F I (A) (A)
C VII$_{II}^{o7}$ V$^{7}_{III}$ I$_{I}$ I$_{I}$ IV I$_{I}$ II^{7} V^{7} I

1 Modulation may also be made through attendants to other chords than the tonic of the new key.

2 **EXERCISE 66. Write cadence-groups with modulations through attendants to other chords than the tonic of the new key.**

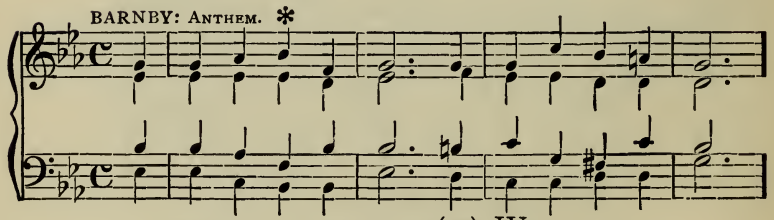
MODELS.

STAINER: HYMN-TUNE.



(A) II$_{I}$ — I$_{II}$ V^{7} I

BARNBY: ANTHEM.



(A) IV

3 **EXERCISE 67. Compose periods making use of attendant chords without and with modulation.**

4 5 NOTE. The student may now at will write periods of six or any other irregular number of cadence-groups. At the option of the teacher, some of the smaller Forms (p. 53, s. 8) of two or three periods can now also be introduced, instruction being given as to the usual modulatory endings of the earlier periods of the Form.

MODEL.

SULLIVAN: HYMN-TUNE.

Modulation through Second Inversion of the Tonic Triad.

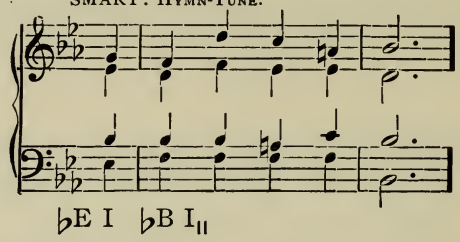
A new key is frequently entered, on a grammatical accent (p. 45, s. 10), through the tonic triad in second inversion. This may be a special case of modulation through common material, or a case of modulation through chromatic progression. The satisfactoriness of it is due to the fact that the cadence-chords I_{II} V^7 I are in such general use that, whenever a consonant triad appears in second inversion, and *accented*, one feels it to be a tonic chord and expects V^7 I to follow. If these expected chords do follow, the modulation is made.

EXERCISE 68. **Write cadence-groups with modulation through the use of the second inversion of the tonic triad of the new key, on the grammatical accent.**

1 NOTE. In estimating the rhythmic significance of a chord it should be ob-
served, that triple time accentuates the second unit in comparison with the third.
2 Triple time may be conceived as a condensing of quadruple time, — > — —
3 reducing to > > —. The form > — >, though not infrequent, is usually to
be conceived as a use of rhetorical syncopation (cf. p. 50, s. 6, and p. 51, s. 2).

MODELS.

SMART: HYMN-TUNE.



MENDELSSOHN: PART-SONG.

OBSERVATIONS ON MODULATION.

4 The kinds of modulation to which the student has already been introduced, are the most usual and altogether the simplest
5 found in music. An exhaustive study of them would discover a very great variety of chord-combinations, through which the transition of thought from *any key to any other* may be accom-
6 plished. The practical student of harmony, who desires freedom at the key-board, is advised strongly, at this point in his study, to write out a great number of these modulations, and also to play them without writing, *insisting, however, that he strike no chord without first knowing exactly what it is and the correctness of the progression into it.*

7 It will be readily recognized that, even with the use of chromatic and attendant chord modulations, a transition between keys which have no chords in common is often abrupt and unsatis-
8 factory. It is in the study of modulation, therefore, that the true
9 relationship of keys becomes apparent (cf. p. 17, s. 8). From the harmonic standpoint, *keys that contain chords in common are*

related; and the degree of relationship varies according to the
1 number of these chords-of-union. Between related keys, any mode of modulation is available.

2 The following tables, which present the related keys and the modulations possible by means of chords common to the two keys,
3 indicate, also, at a glance, the degree of relationship. It will be seen that every major key is most closely related to the major key at the perfect fifth above (e. g., C and G), and to the minor key at the minor third below (C and a); next closely related to the major key at the perfect fourth above (C and F), and to the minor key at the major third above (C and e), and so forth; while every minor key is most closely related to the major key at the minor third above (c and ♭E), and next closely related to the major key at the
4 major third below (c and ♭A). Minor keys have a larger number of related keys than the major keys do, but fewer closely related keys.

5 The actual modulations given in the tables, although they are the simplest that can be made, are not necessarily the more beautiful, and, in fact, those through subordinate seventh-chords are
6 apt to prove decidedly harsh. In any such case the modulation can be made as well without using the seventh of the chord.
7 But modulation to these same keys can always be made smoothly by use of one of the principal attendant chords to the tonic.

Modulation Tables.

I.

FROM A MAJOR KEY THROUGH CHORDS COMMON TO THE TWO KEYS.

(Illustrated from the key of C.)

8 *To major keys:*

At the major second above (C to D); $III^7 = II^7$, V = IV.
At the perfect fourth above (C to F); I = V, $IV^{7|} = I^{7|}$, $VI^7 = III^7$.
At the perfect fifth above (C to G); $I^{7|} = IV^{7|}$, $III^7 = VI^7$, V = I, $VI^7 = II^7$.
At the major second below (C to ♭B); $II^7 = III^7$, IV = V.

9 *To minor keys:*

On the same keynote (C to c); $V^7 = V^7$, $VII^\circ = VII^\circ$.
At the major second above (C to d); II = I.
At the major third above (C to e); $I^{7|} = VI^{7|}$, III = I, $VI^7 = IV^7$.
At the perfect fourth above (C to f); I = V.
At the minor third below (C to a); $II^7 = IV^7$, $IV^{7|} = VI^{7|}$, VI = I, $VII^{\circ 7} = II^{\circ 7}$.
At the major second below (C to ♭b); IV = V.
At the minor second below (C to b); $III^7 = IV^7$, V = VI.

II.

FROM A MINOR KEY THROUGH CHORDS COMMON TO THE TWO KEYS.

(Illustrated from the key of c.)

1 *To major keys:*

On the same keynote (c to C); $V^7 = V^7$, $VII^\circ = VII^\circ$.
At the minor second above (c to ♭D); $IV^7 = III^7$, VI = V.
At the major second above (c to D); V = IV.
At the minor third above (c to ♭E); I = VI, $II^{\circ 7} = VII^{\circ 7}$, $IV^7 = II^7$, $VI^{7\prime} = IV^{7\prime}$.
At the perfect fifth above (c to G); V = I.
At the major third below (c to ♭A); I = III, $IV^7 = VI^7$, $VI^{7\prime} = I^{7\prime}$.
At the major second below (c to ♭B); I = II.

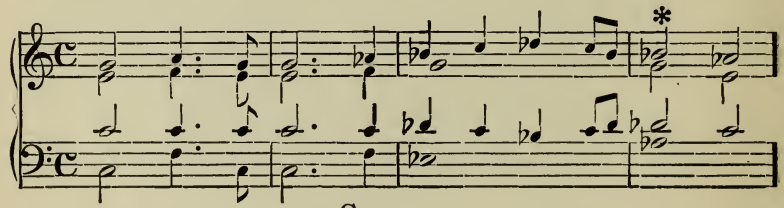
2 *To minor keys:*

At the minor second above (c to ♭d); VI = V.
At the minor third above (c to ♭e); $II^\circ = VII^\circ$.
At the perfect fourth above (c to f); IV = I.
At the perfect fifth above (c to g); I = IV.
At the minor third below (c to a); $VII^\circ = II^\circ$.
At the minor second below (c to b); V = VI.

The Major-minor Key.

3 It is worth while, here, to notice a somewhat common recoloring of the major scale (cf. p. 15, s. 6) through the use of the
4 minor submediant note. This furnishes in a key otherwise major a minor subdominant triad (IV), a diminished supertonic triad (II°), and, sometimes, a major submediant triad, through the
5 lowering, likewise, of the mediant note. The use of these chords increases the number of the modulations out of a major key.
6 But *the modulation-chord should not be reached by chromatic progression.*

7 Thus, in a scale with major tonic chord, it is possible to write the following chord-progressions, and to utilize the second chord for modulation through quasi common material: I IV, or I $II^{\circ 7}$,
8 or V^7 VI, or V^7 IV, or V^7 $II^{\circ 7}$. For example, from one major key to another at the major third below:



The reverse process also takes place, a chord being taken as material common to the major-minor key into which modulation is to be made.

MONK: HYMN-TUNE.

Enharmonic Modulation.

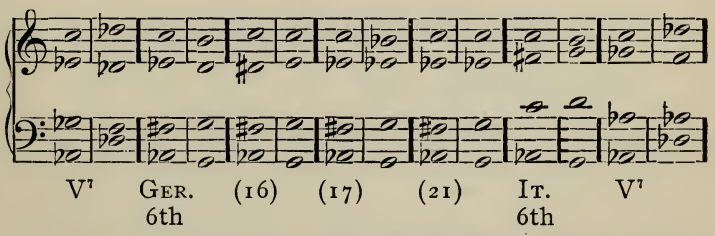
There is still another very interesting and striking group of modulations, rendered possible from the fact that certain chords, diatonic or chromatic, in one key, are the enharmonic equivalents of other chords *with entirely different tendencies.* A modulation, therefore, can be made by entering the chord as if it represented one tendency, and leaving it as if it represented another. Enharmonic modulations are always somewhat startling, and are proportionately seldom used, particularly in writing for human voices.*

The enharmonic modulations possible through the use of attendant chords are as follows:

1. *The Dominant Seventh and its Enharmonics.*

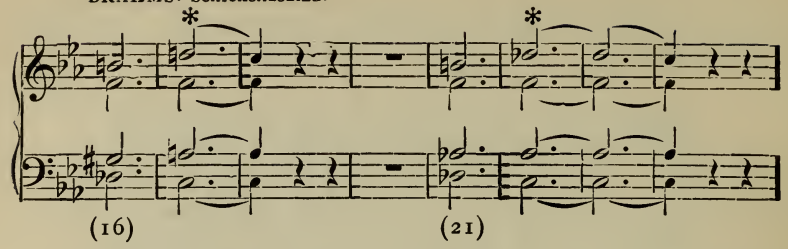
The dominant seventh (chord 4) in fundamental position is enharmonic to the German Sixth (chord 12), to chord 16 in second inversion, to chord 17 in first inversion (but see p. 133, s. 3), and to chord 21 in first inversion; also to chord 3 (Italian Sixth), if the fifth of the dominant seventh-chord be omitted. In this last chord the note doubled to make four-part harmony determines which of the two enharmonics is to be resolved.

E.g.:



* Unless executed upon keyed instruments in equal temperament, the difficulty of enharmonic modulation is enhanced by the necessity of slight changes of intonation to represent the new tendency.

BRAHMS: Schicksalslied.

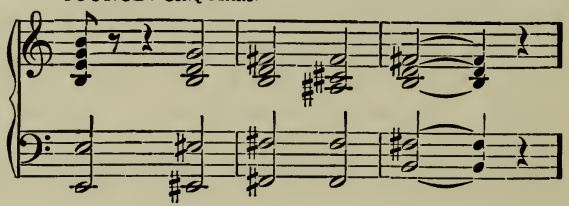


1 In making an enharmonic modulation, it is not ordinarily necessary to notate the chord in both ways, as the unusual entrance or outcome of the chord indicates sufficiently that a second meaning of the chord was chosen in resolution; hence, sometimes one notation and sometimes the other is employed.

GOUNOD: Mors et Vita.

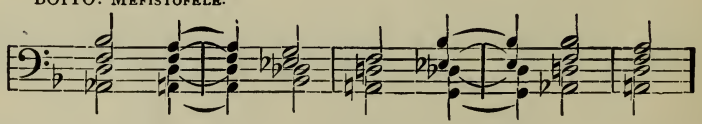
E.g.:

GOUNOD: Cinq-Mars.



2 Notice carefully also the following illustration:

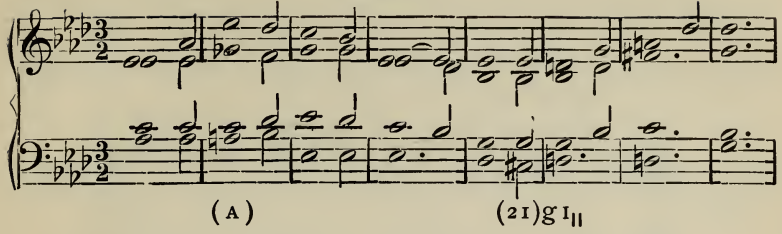
BOITO: Mefistofele.

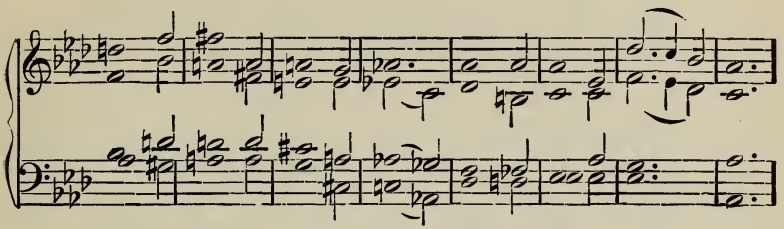


3 Exercise 69. Write cadence-groups with modulation through enharmonics of the dominant seventh-chord.

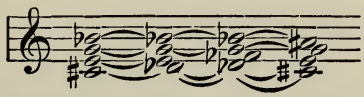
4 Note. It will be well to write an example of each modulation from every enharmonic except chord 17.

MODEL.

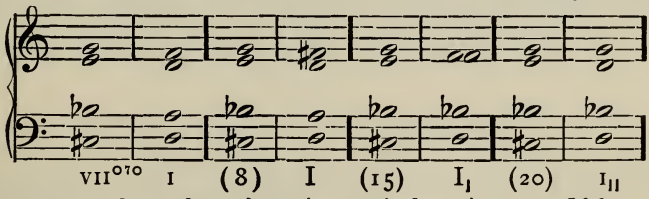




1 2. *The Diminished Seventh-chord* is enharmonic *with itself:*



2 But each diminished seventh-chord is, also, an attendant chord with several resolutions ; namely, as chords 8, 15, and 20 ; that is, a diminished seventh-chord can resolve to the major or minor triad on the minor second above its root, to the major triad on



its own seventh, and to the minor triad on its own fifth.

3 It will be seen, therefore, that since there are four natural outcomes of every chord, while to each chord there are three enharmonics, the same combination of tones can give entrance to the tonic chords of sixteen different keys.

4 This extreme uncertainty as to the meaning of a given diminished seventh-chord is the only hindrance to its usefulness in
5 modulation. The new key is not brought out with sufficient
6 certainty. But requisite certainty can always be acquired by

first resolving the chord *partially* into the dominant seventh-chord of the key, and then letting the tonic chord and the cadence follow.

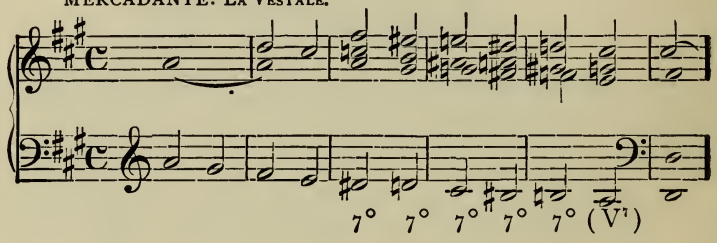
BEETHOVEN: ELEGY, op. 118.

E.g.:

One result of this uncertainty as to the meaning of the chord is, that a chromatic series of diminished seventh-chords may be used ascending or descending, the series ending with a regular resolution of the last chord. It will be seen that the fourth chromatic chord in such a series is an enharmonic of the first; that is, that there are but three diminished seventh-chords of different sound in music. A mastery of the enharmonic possibilities of these three chords, therefore, opens a way to all chords and keys.

MERCADANTE: LA VESTALE.

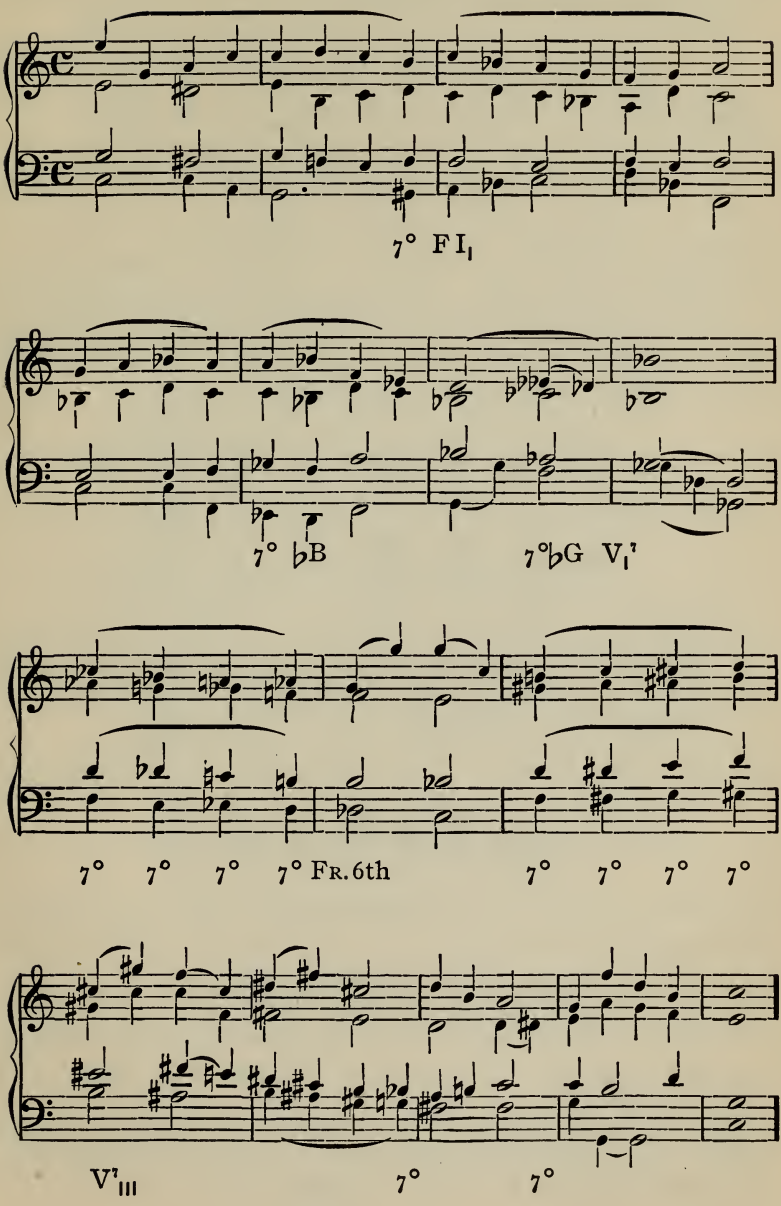
E.g.:



GADE: CRUSADERS.

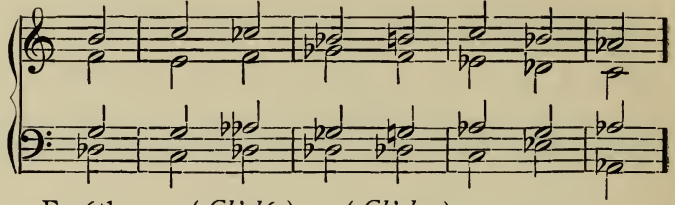
EXERCISE 70. Write cadence-groups with enharmonic modulation through the Diminished Seventh-chord.

MODEL.



3. *Chord 6* (*The French Sixth*) is enharmonic *with itself*, and with chord 9 in second inversion.

Thus:—



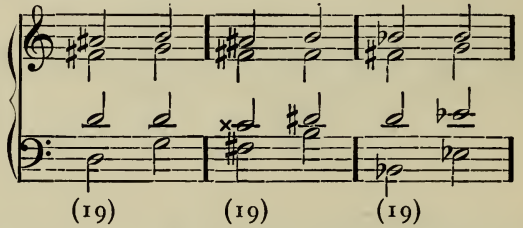
Fr. 6th (*Ch'd* 6.) (*Ch'd* 9.)

♭A I_1 V^7 I

4. *Chord 19* (*Augmented Triad*) is enharmonic *with itself.*

In its resolution the third and the fifth are tendency-notes; so that four-part harmony allows the meaning of the chord to be clear, since the root only may be doubled.

Thus:—



(19) (19) (19)

In three-part harmony this chord allows the same chromatic series as does the diminished seventh-chord. The effect is so breezy that it is rarely used.

NOTE. Wagner has the following interesting example in "Siegfried," p. 233 (Kleinmichel, Piano-score):

(19) (19) (19)

in accompaniment to the words—

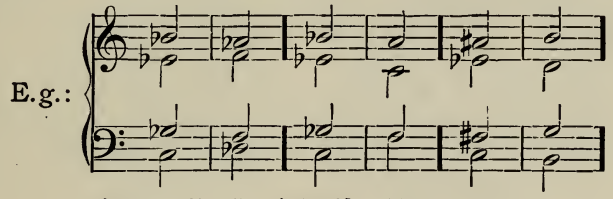
"Forth I hasten, henceward exulting,
Forth from the wood to the fell."

See also p. 225 of the same score, measures 15–17.

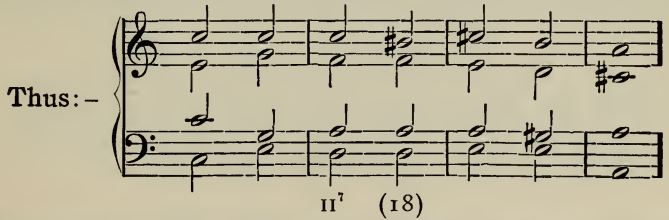
5. *The Neapolitan Sixth* (*chord 22*) is identical in writing with *the Major Triad.*

It is used most frequently in modulation by treating a major triad of one key as Neapolitan Sixth in a following minor key. The reverse process is, however, quite possible.

6. *The Leading-tone Seventh-chord, in major* (VII°^{7}), is enharmonic to chord 10 in second inversion. Since the VII°^{7} can also stand as II°^{7}, an enharmonic modulation from major to minor, or minor to major, is also possible.

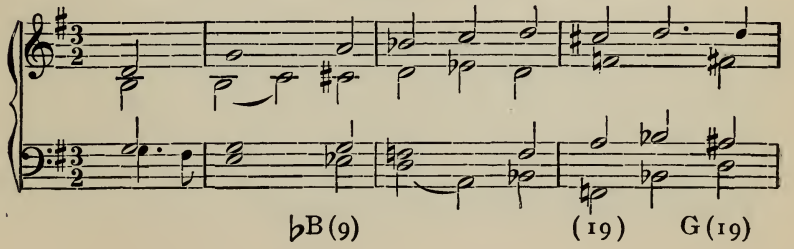


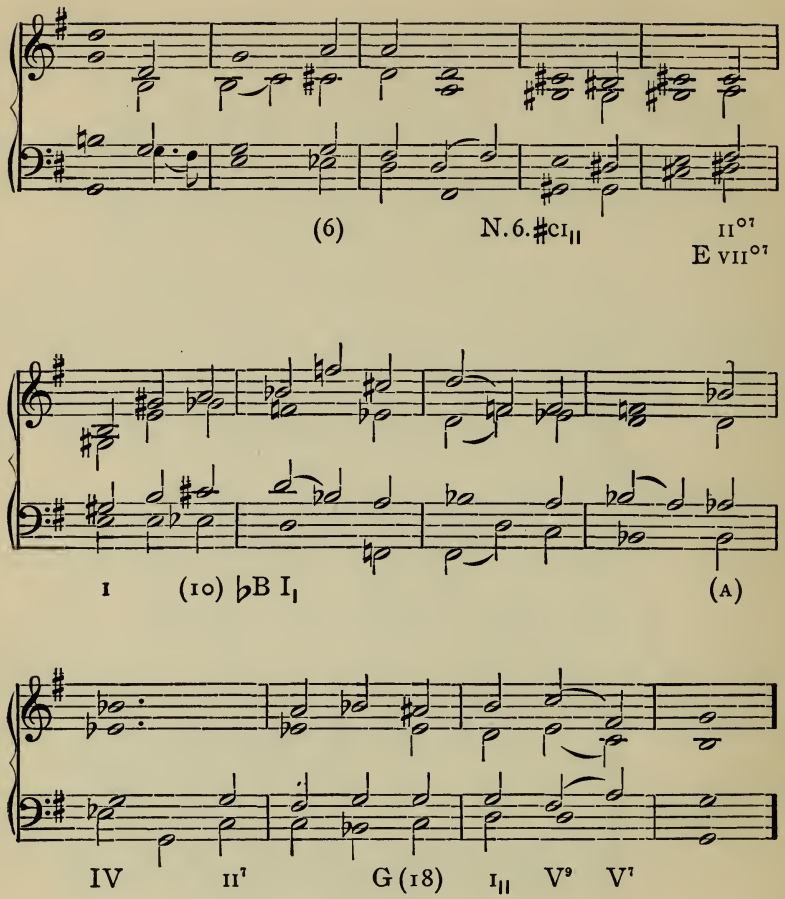
7. *The subordinate seventh-chord* found on II^7 III^7 VI^7 in major, and IV^7 in minor, has also an enharmonic writing as chord 18 in first inversion, and therefore might make enharmonic modulation.



EXERCISE 71. Write cadence-groups making enharmonic modulation through each of the means set forth in paragraphs 3 to 7.

MODEL.



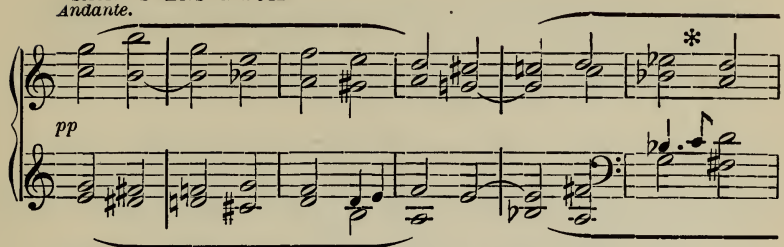


Transient and Indeterminate Modulation.

1 It not infrequently happens, that a musician desires to enter a key, but not to remain in it long enough to complete a cadence-group; or to use a passage that shall not hold to any one tonality steadily, but only make good progression from chord to chord.

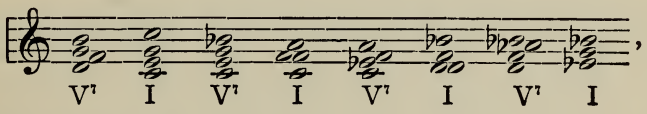
2 If the key be entered, and a sufficient number of cadence-chords be used to make the key evident, the modulation is *transient;* while a succession of chords in various keys, with no allegiance to any one, makes *indeterminate modulation.*

SAINT-SAËNS: DELUGE.



BEETHOVEN: MOUNT OF OLIVES.

1 A well-known example of transient modulation is that called the *chain modulation:* namely, the resolution V^{7} I repeated through all keys by adding to each resolution-triad a minor seventh, making it V^{7} in another key; thus:



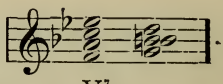
or directly, thus:

which must of course be classed as an indeterminate modulation. (Compare Beethoven example above.)

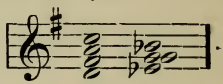
In all modulations, but especially in transient and indeterminate modulations, many of the unusual resolutions of seventh-chords are helpful.

The following resolutions of the Dominant Seventh present a few of the available progressions:

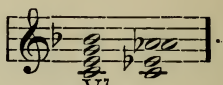
1. To the major triad on the major second above:



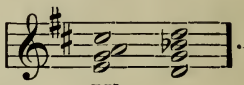
2. To the major triad on the minor second above:



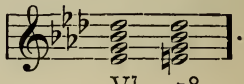
3. To the major triad on the major third below:



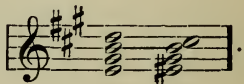
4. To the minor triad on the major second below:



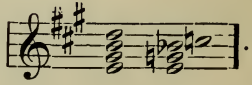
5. To a diminished seventh-chord by chromatic raising of the root:



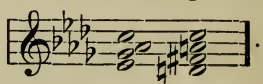
6. To a dominant seventh-chord by chromatic raising of the root and diatonic lowering of the seventh a half-step:



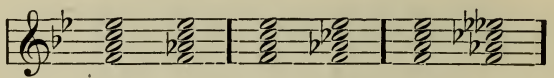
7. To a dominant seventh-chord by chromatic lowering of its third and fifth, and diatonic lowering of its seventh a whole step:



8. To a dominant seventh-chord by chromatic raising of its root, diatonic lowering of its fifth a half-step, and enharmonic writing of its seventh (since the tendency is shifted):

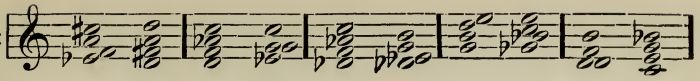


9. To other seventh-chords on the same root:



Other dissonant chords, including the attendant chords, may be resolved in the same unusual ways, *provided the tendencies of the strongly dissonant tones be respected.*

E. g.:



EXERCISE 72. Write transient and indeterminate modulations, eight measures in length, closing with a cadence in the key last reached.

MODEL.

Task XIV.

(To modulate at will to any given key, and return.)

Choice of Keys in Modulation.

In the small Forms (p. 53, s. 8), unless the music is meant to be dramatic, modulations seldom go beyond closely related keys; and modulations into unrelated keys are extremely rare.

NOTE. For example, an analysis of sixty-three tunes taken at random from a standard hymnary showed not one modulation to a strictly unrelated key. Six of the tunes observed had no modulation; and, of the one hundred and ten modulations in the remainder, fifty-eight were to the dominant, seventeen to the relative minor, thirteen to the subdominant, twelve to the supertonic minor, five to the mediant minor, and five to the mediant major; and out of twenty that had a single modulation, sixteen were to the dominant.

Sudden modulation to an unrelated key is not usually pleasant (p. 140, s. 7); so that either indeterminate progression is employed, or entrance to the key is delayed by repetition of the modulatory chord, or by resolution of one tendency-chord to the new tonic into another (see p. 145, s. 6) before reaching the cadence-for-

mula. The simpler and more flowing the melodies of the parts are, the more satisfactory will the modulation appear.

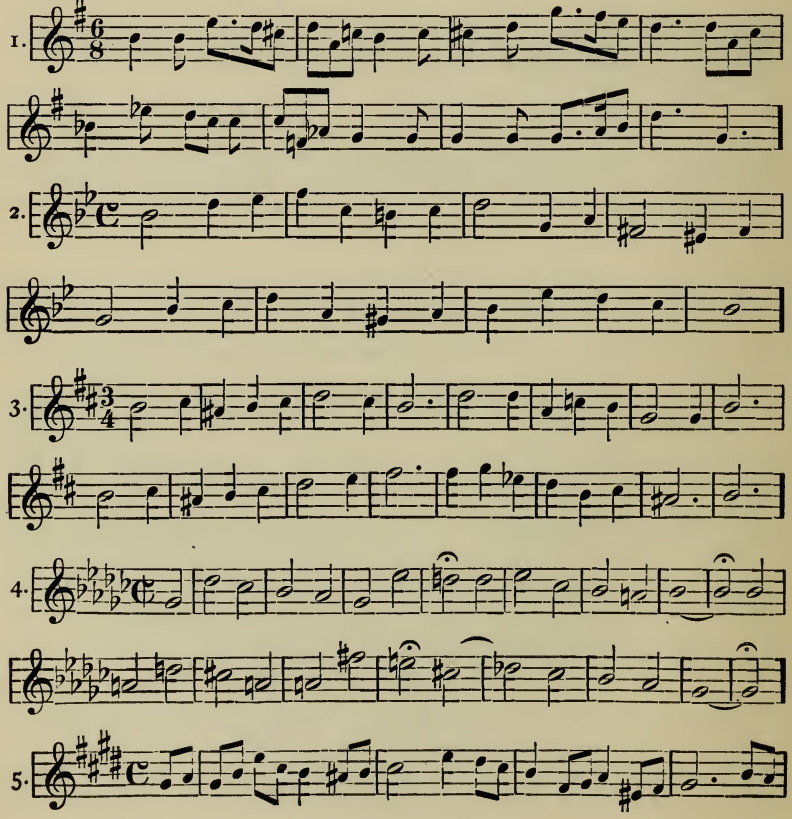
In writing the following exercises, keep in mind the paragraph on page 120.

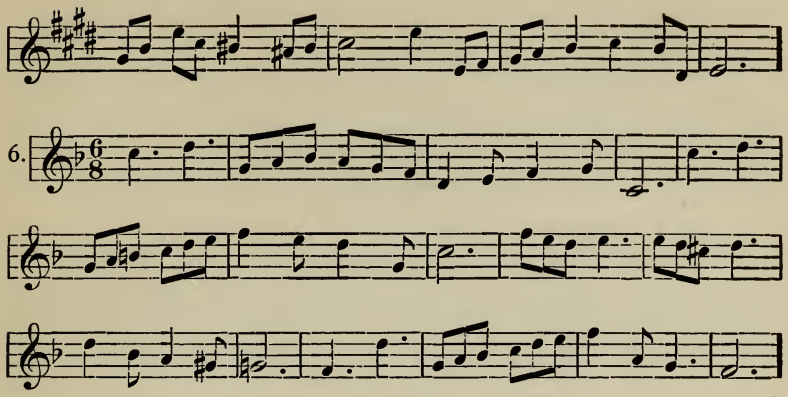
EXERCISE 73. Write periods making modulations to related keys and return; to unrelated keys and return.

Task XV.

(To harmonize melodies, using any of the means so far mastered.)

EXERCISE 74. Harmonize the following melodies.





1 EXERCISE 75. **Compose melodies in one- and two-period Forms, and harmonize them.**

THE INHARMONIC (NON-STRUCTURAL) TONES.

2 By studying the structural chords alone, a result has been obtained in all the exercises which is somewhat artificial; not merely because to write with one group of chords by itself, and then another, is unnatural, but particularly because nearly all music, even the simplest, makes constant use of *inharmonic*
3 *tones.* **Inharmonic tones** are tones which take for the time the place of a chord-tone *without altering the chord into another chord;* that is, the harmony with which they appear is felt to be of exactly the same meaning as if the tone were present which the inharmonic tone, during a portion of the time of the chord, replaces.

4 Inharmonic tones, in most cases, make scale-progression from
5 or to the chord-note which they replace. They are of two general classes, those which are used to *fill in a melody*, and those
6 which are used to *create a tendency.* The former are *passing-tones;* the latter are *suspensions*, and *appoggiaturas.*

7 Since by their use two or more melody-notes are made to ap-
8 pear with but one harmony, they are particularly adapted to bring lightness and delicacy into the music. Inharmonic tones are thus to be reckoned among the embellishments of music.
9 For their mastery there is needed at once not only an understanding of the laws according to which they may properly be introduced, but, in addition, the æsthetic sense which shall recog-
10 nize those which are beautiful and fitting as well as correct. No

text-book or teacher can supply the lack of artistic judgment. The student will therefore find, in the working-out of the exercises making use of inharmonic tones, an opportunity for individuality of treatment not heretofore offered. Hints as to what is likely to prove enjoyable might be given, but do not properly come under the head of the *grammar of music.*

Task XVI.

(To write cadence-groups, making use of inharmonic tones.)

PASSING-TONES.

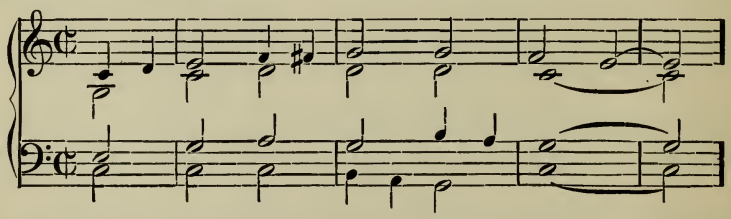
When the interval between a tone of one chord and the tone of the same voice-part in the next chord is bridged by inserting a tone or tones that make the melody into a scale-passage, the tones inserted are called **passing-tones.**

Passing-tones may be either chromatic or diatonic, although the latter are usually simpler, and more available. Their correct use and notation require—

1. That they make a true scale-progression from chord-note to chord-note.
2. That they do not hinder recognition of the chords.
3. That they do not produce faulty movement between the parts.

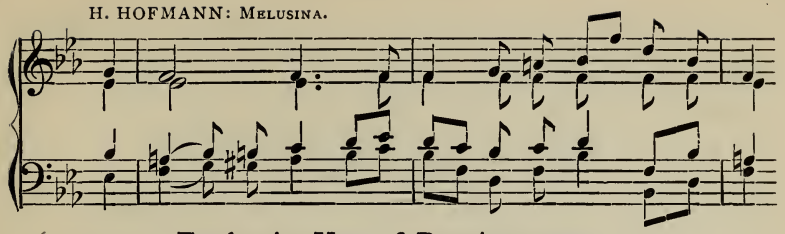
Rhythmic Place of Passing-tones.

Out of the second condition of correct passing-tones it comes about, that the inharmonic tone more frequently appears *after the real chord is struck, and unaccented.* Accented passing-tones, appearing at the moment the chord is struck, require special care, both because they are liable to make the chord seem like some other *with different tendency*, and because they are peculiarly harsh. Properly taken, they are often very effective.*



* Accented passing-tones are by many writers classed as **appoggiaturas,** since the result to the ear is much the same.

H. HOFMANN: MELUSINA.



Faults in Use of Passing-tones.

Parallel fifths and and octaves are common faults of movement, liable to arise in the use of passing-tones. *They always occur if there would be concealed fifths and octaves without the passing-tones.* Hence, passing-tones are most readily inserted in a part that moves contrary to the other parts.

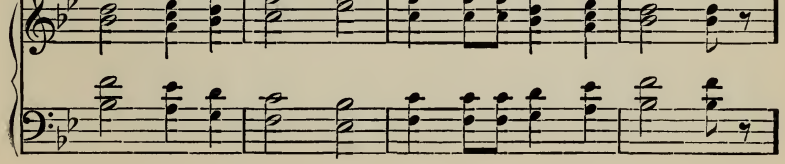
Bad:

NOTE 1. The endings of the second and third measures of the above example illustrate the fact, that a progression which is faulty without passing-tones *is not made less faulty by their insertion.*

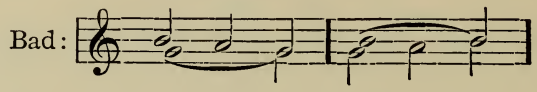
NOTE 2. The student is warned, that in judging faults in inharmonic effects, many chord-successions which do not sound unpleasantly when played in full upon a piano, are felt at once to be bad if given by different instruments, so that the melodic progressions can readily be followed by the ear. To appreciate fully the errors described above, the particular parts containing the faults should be played first without the accompanying harmonies.

NOTE 3. Parallel fifths (more rarely parallel octaves) do sometimes occur between inharmonic tones of various sorts. (See Wagner illustration, p. 170, second measure.) The possibility of using them must depend upon their inobtrusiveness, the value of the melodies involved, and the æsthetic character of the passage containing them. The student who grasps the inherent characteristics of parallel effects, must be trusted finally to judge where in his music they are objectionable; remembering always, that the success of his composition must depend on his ability to convince the listener of the rightfulness of the effects he has chosen. The following example would be altogether unpleasant under most circumstances:

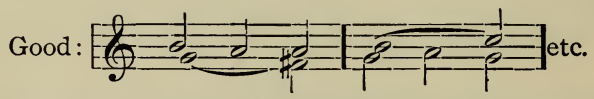
BOITO: MEFISTOFELE.



1 A fault liable to occur with *any use of inharmonic* material is, that an harmonic tone shall sound simultaneously with the inharmonic tone that then passes into it.

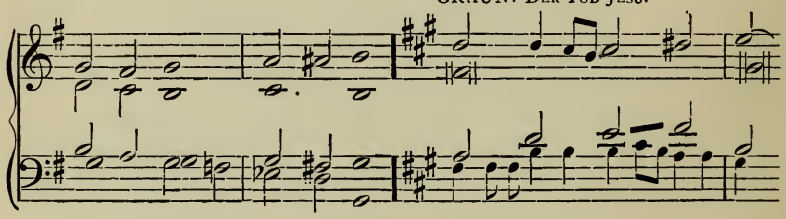


2 That a dissonance (which in this case is a second) shall end through the merging of one tone into the other, is usually unsatis-
3 factory. Resolution of a second must be to a consonant third or fourth, by which each melody can be recognized to have taken its place in the consonance; whereas the merging of one tone into the other causes a loss of individuality in the parts, that leaves a confused sense of the disappearance of a dissonance without resolution.



4 An *exception* to this rule is occasionally found, when the resolution-tone is the bass, since it can successfully maintain itself against the dissonant tone after the manner of a pedal-point (p. 173); or the exception may occur even in an upper part of strong melodic character.

GRAUN: Der Tod Jesu.



Passing-tones in Two or More Parts.

5 Passing-tones may appear in two, three, or even four parts
6 at the same time. The difficulty of avoiding faulty movements, and of retaining the effect of the original chords, is, however,
7 proportionately greater. When several such passing-tones appear at once, since they do not belong to the harmony of the chords with which they are used, they create a decidedly harsh
8 impression, unless they harmonize well with one another. For this reason tones passing in consonant intervals, like parallel thirds and sixths, are found most satisfactory.

Good:

† Poor, because of parallel 7ths and 4ths.

BRAHMS: REQUIEM.

WAGNER: MEISTERSINGER.

When all the parts which move into the new chord do so by passing-tones, there is often formed what is called a **passing-chord.** Such a chord is to be distinguished from other chords only by its unimportant place in the measure, and its evident use to mediate between the preceding and the succeeding chords. A number of the chords in previous illustrations of this text-book have been passing-chords.

H. SMART: PART-SONG.

Alternating-tones.

The passing-tone introduced between a note and its repetition, is sometimes called an **alternating-tone.** Its use is exactly the same as that of other passing-tones, except that a note must be chosen for this purpose which will allow ready return to the repetition-note; namely, a diatonic whole or half-step from the repetition-note. The under alternating-tone is, in most cases, an upward *tendency-tone*, chromatic if necessary.

NOTE. Earlier composers were much more inclined to use under alternating-tones of a whole step, and had special rules for discriminating when the chromatic half-step was advisable. With the general principle in mind, however, the student may be safely trusted to let his sense of the harmonious decide which is advisable.

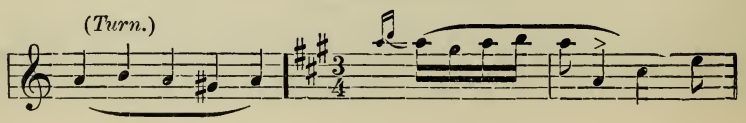
KIEL: CHRISTUS.

KIEL: CHRISTUS.

PINSUTI: PART-SONG.

N. B. Observe that the *turn* is merely the use of first the upper, and then the under alternating-tone between repetitions of a note. Formerly the turn was sometimes made with the reverse order of alternating-tones, as in the well-known Boccherini minuet in A.

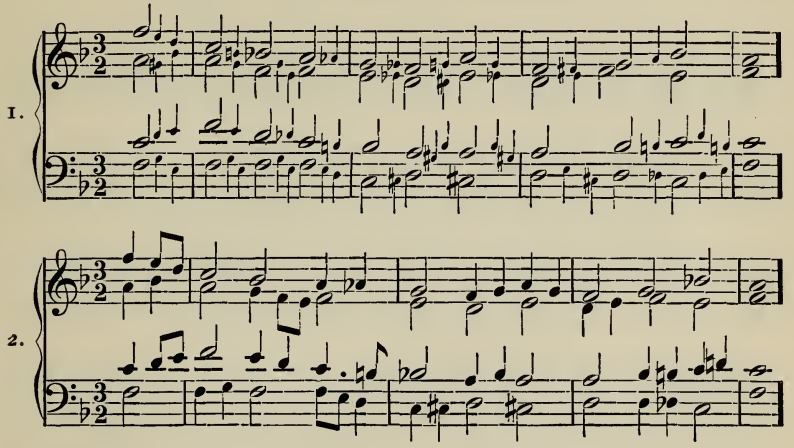
BOCCHERINI:



EXERCISE 76. Write exercises as in Tasks IV and X, then insert passing-tones as in the model example given below.

NOTE. Insert first all possible passing-tones in diminutive notes, without altering the time-values of the original music; finally, write out the passing-tones which seem satisfactory, in large notes, taking suitable time-value from the original chords. *The first writing of the exercises will contain much that cannot remain*; the second should retain only what the student judges available and interesting. After an exercise or two has been done in this way, the final writing-out alone will be sufficient.

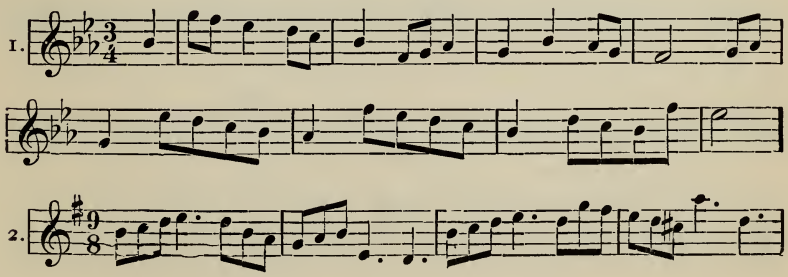
MODEL.

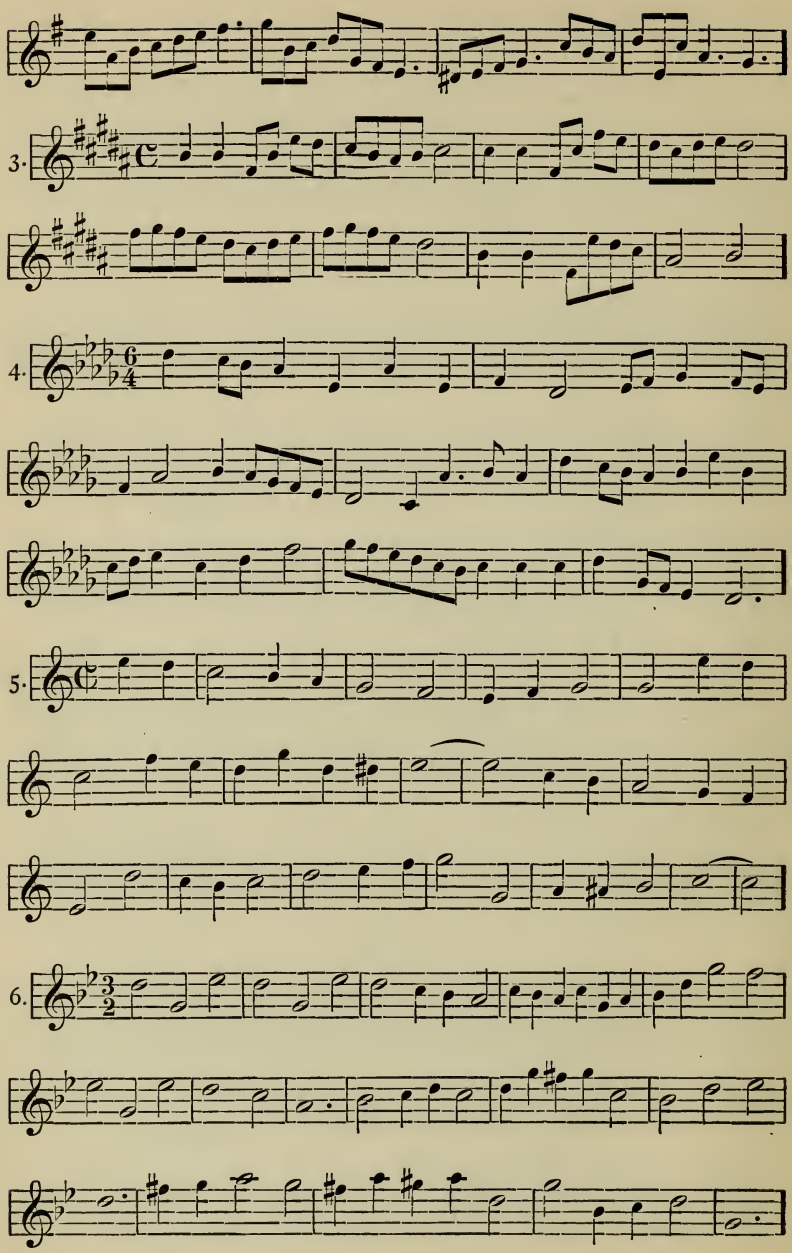


EXERCISE 77. Harmonize the following melodies, treating those melody-notes which are suitable for the purpose as passing-tones; also, using passing-tones in the other parts where desirable.

NOTE. The previous exercises carried the use of passing-tones to excess, for the sake of illustration. Let the student endeavor in the present exercise to produce the most natural effects possible, employing passing-tones only as an aid to naturalness.

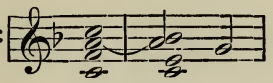
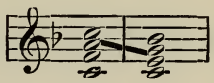
EXERCISES.




3.
4.
5.
6.

SUSPENSIONS.

When a melody makes diatonic progression from one chord-tone to the next, it is often possible to heighten the tendency of the melody by retaining the note of the first chord as an inharmonic tone in the following chord, for a portion of the time; the discordant tone then finding its natural resolution in the same note of the harmony to which it would otherwise have immediately gone. Such an effect is called a **Suspension**, the use of the final note being thought of as for the moment *suspended.*

E. g.:  instead of: 

As in the case of passing-tones, that which is essential to a satisfactory use of suspensions is—

1. That they preserve a correct melodic motion.
2. That they do not hinder recognition of the chords.
3. That they do not produce faulty movements between the parts.

Rhythmic Place of Suspensions.

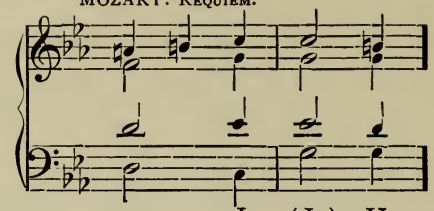
Since the value of the suspension lies in its evident melodic tendency, the stronger the dissonance is, the more satisfactory will be the suspension. Hence the fact, that the dissonant tone is retained, or *even restruck*, at the entrance of the new chord, is not a disadvantage, such as is often the case with accented passing-tones.

BACH: CHORALGESANG.

Indeed, suspensions which are not dissonant, but form, with the other notes of the new chord, a real chord, are felt to be weak, and of value only when the rhythm of the music helps to create the suspension-effect. That is, if a weak chord be accented and immediately followed by a strong chord with which it could make a real-chord suspension, the weakness of the first chord declares it to be such a suspension-chord.

MOZART: REQUIEM.

E. g.:



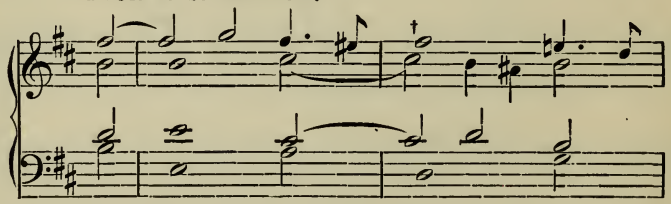
SAINT-SAËNS: LYRE and HARP.

NOTE. The two real-chord suspensions displayed above are in constant use. They are, the suspension of third and fifth of the dominant triad in fundamental position, which forms the equivalent to the second inversion of the tonic triad;* and the suspension of the fifth of the dominant triad, which forms the equivalent to the first inversion of the mediant triad.

Upward Suspensions.

Since the suspension is a *dissonant tendency-note*, in most cases it can be made to resolve upward only when it lies a diatonic half-step below its resolution-note. And the cases where the same tone could be made, in different parts, to be a suspension both up and down, are extremely rare. The following is an example of this unusual effect:

DVOŘÁK: STABAT MATER.



* It is the recognition of the I$_{II}$ as a suspension of V that allows the formation of a cadence with the last chord apparently unaccented (as in the above example); i. e., the Dominant chord does come really upon the accent, but in suspension.

Preparation of Suspensions.

1 A shrinking from the harshness of the suspension-dissonance led earlier writers to take special pains to introduce the disso-
2 nant tone smoothly (cf. p. 103, s. 8, *et seq.*). Their rule for such introduction, called *preparation of the suspension*, was that the tone must be heard at least as long in the previous chord where it was a chord-tone as in the suspension, and that the suspension
3 should not be restruck. Modern writers freely violate this rule; but the student is advised to observe the value of it for rendering a suspension as smooth and rich as possible.

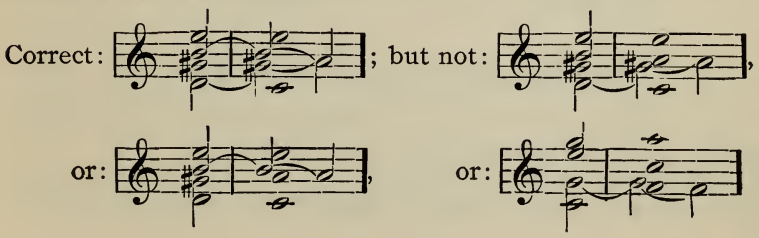
GRAUN: DER TOD JESU.

Faults in use of Suspensions.

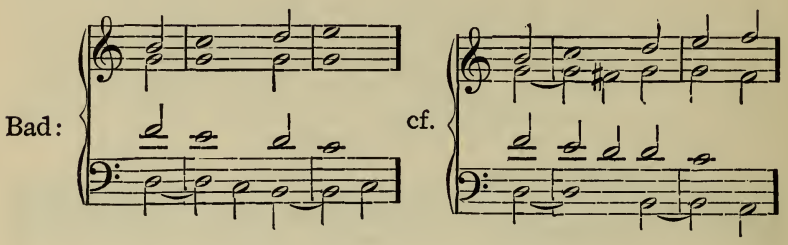
4 As with passing-tones, faults in the original writing cannot be remedied by suspension of one of the parts making the fault; the error is only delayed.

5 But certain faults may be created by suspension.

6 Two parts, which, were there no suspension, would double at unison in the second chord, cannot have suspension (p. 158, s. 2; also s. 4), *unless they are both capable of suspension, and resolve at the same instant.*



1 Also, the sounding together of a suspension and an upper octave of its resolution is decidedly unpleasant, since the dissonant interval (a seventh or ninth) suggests another resolution-tendency.

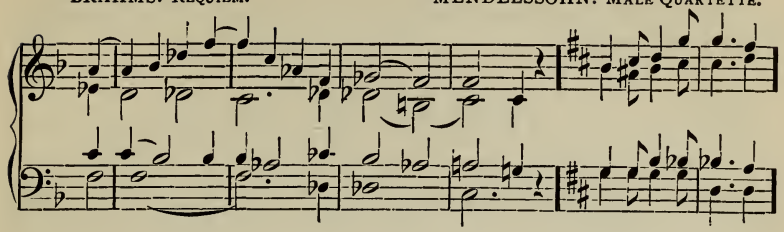


2 Occasionally the use of other inharmonic tones in one part may forbid suspension in another part, or a suspension forbid some other inharmonic effect, lest parallel fifths or octaves result (cf. Note 3, p. 157).

Suspensions in two or more Parts.

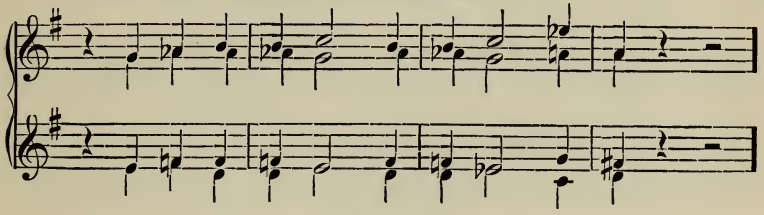
3 4 Suspensions may occur in two or three parts; and both ascending and descending suspensions at the same time. Such double and triple suspensions should harmonize well with each other (cf. p. 158, s. 8), and conform otherwise to all the laws of motion.

BRAHMS: REQUIEM. MENDELSSOHN: MALE QUARTETTE.



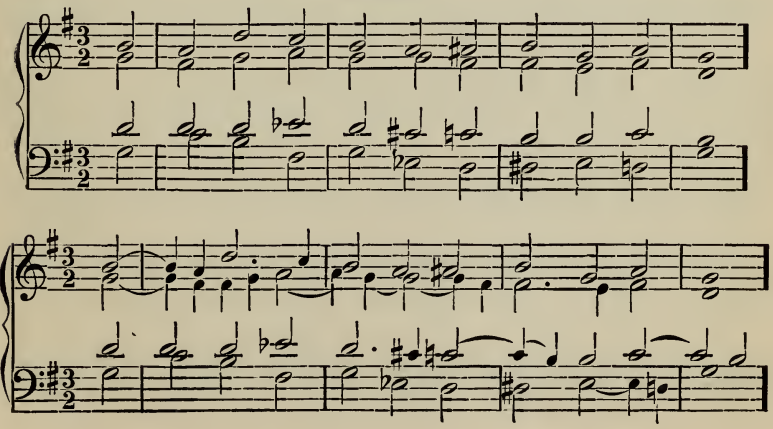
1 Suspensions in all four parts (compare *Passing-chords*) are distinguishable from prolongations, or repetitions, of the preceding chord only by the syncopation, due to retaining the old chord beyond the accent, and by the decided tendency of all four parts towards the new chord.

V. STANFORD: THE THREE HOLY CHILDREN.

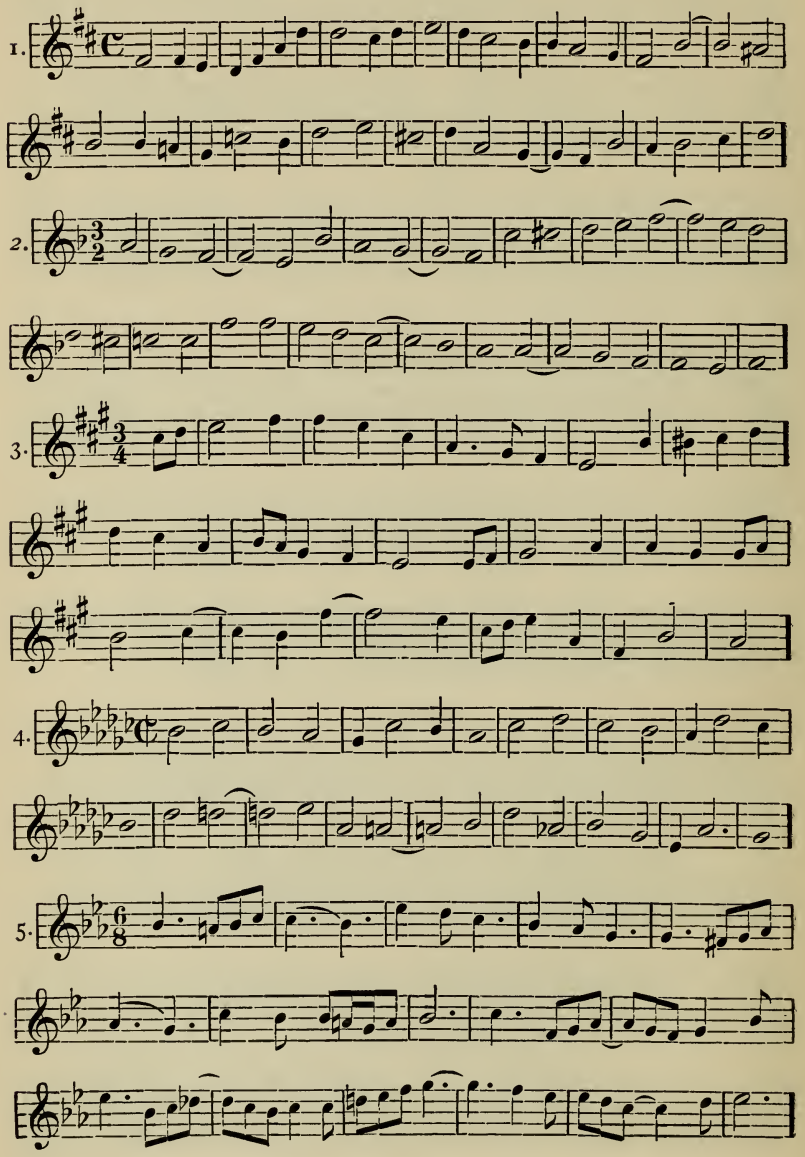


2 EXERCISE 78. Write simple cadence-groups, of various sorts, making free use of tendency-chords and modulations at will; then insert suspensions, as in the model example given below.

MODEL.



1 EXERCISE 79. Harmonize the following melodies, using as suspensions those melody-notes which are available; and also inserting at will suspensions in other parts.



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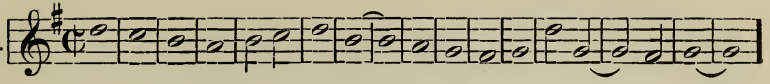
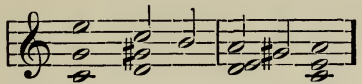


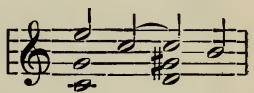
APPOGGIATURAS.

A stronger tendency-effect than either the passing-tone or the the suspension, is obtained when an inharmonic tendency-note is reached by skip. Such a tone is called an **Appoggiatura.** It may be regarded as a suspension with its preparation omitted, or as a passing-tone with the note from which it passes omitted.

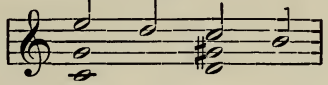
Thus:



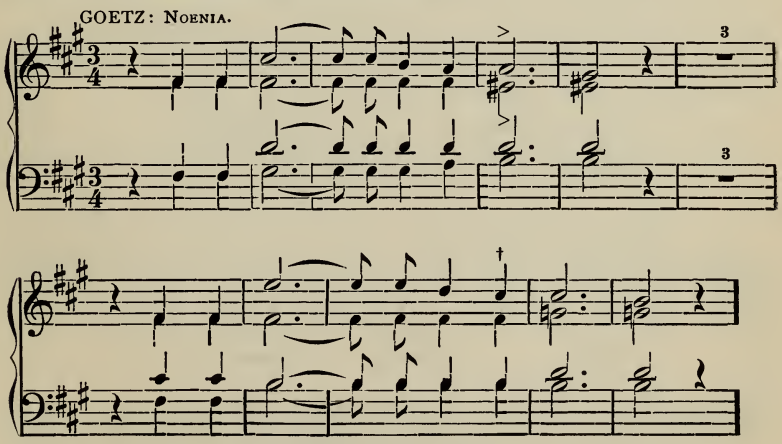
equals:



or:



Except in their free entrance, appoggiaturas obey the laws of motion already set forth. They may be used both upon the accent and away from it. But the melodic tendency of an inharmonic tone is stronger if it is accented, so that the accented appoggiatura is, on the whole, more satisfactory. This is so manifest, that inharmonic tones appearing *without skip* are felt to be appoggiaturas if they sound upon the accent with the entrance of chord (p. 156, s. 12). See the above illustration, and the Grieg illustration on the next page.

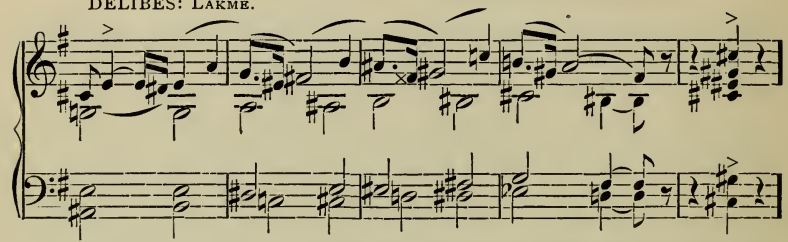


† Anticipation, see p. 180, s. 2.

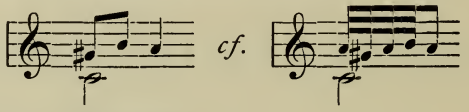
GRIEG: Song, op 10, No. 3.

SCHUMANN: op. 21, No. 6.

DELIBES: Lakmé.



A peculiar effect called the **double appoggiatura** is made by the free entrance of first the lower and then the upper alternating-tone (occasionally this order is reversed) belonging to a note, before the note itself has sounded, i. e., a turn with the first two utterances of the main note omitted (see p. 160).



WAGNER: Meistersinger.

Appoggiaturas, like other inharmonic tones, may appear in two or even three parts; but the fact of the skips in their introduction renders such effects more difficult to handle. It may be stated as generally true, that musical skips in one voice-part are the more beautiful when the other parts move simply nd naturally.

H. HOFFMANN: MELUSINA.

MENDELSSOHN: PART-SONG.

EXERCISE 80. Write cadence-groups, introducing appoggiaturas, in the same manner as in previous exercises with passing-tones and suspensions.

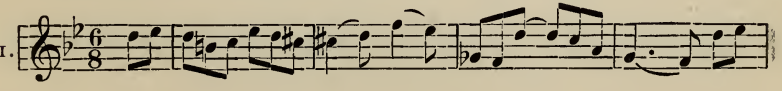
NOTE. Observe that appoggiaturas may often be used where the unembellished melody would be diatonic.

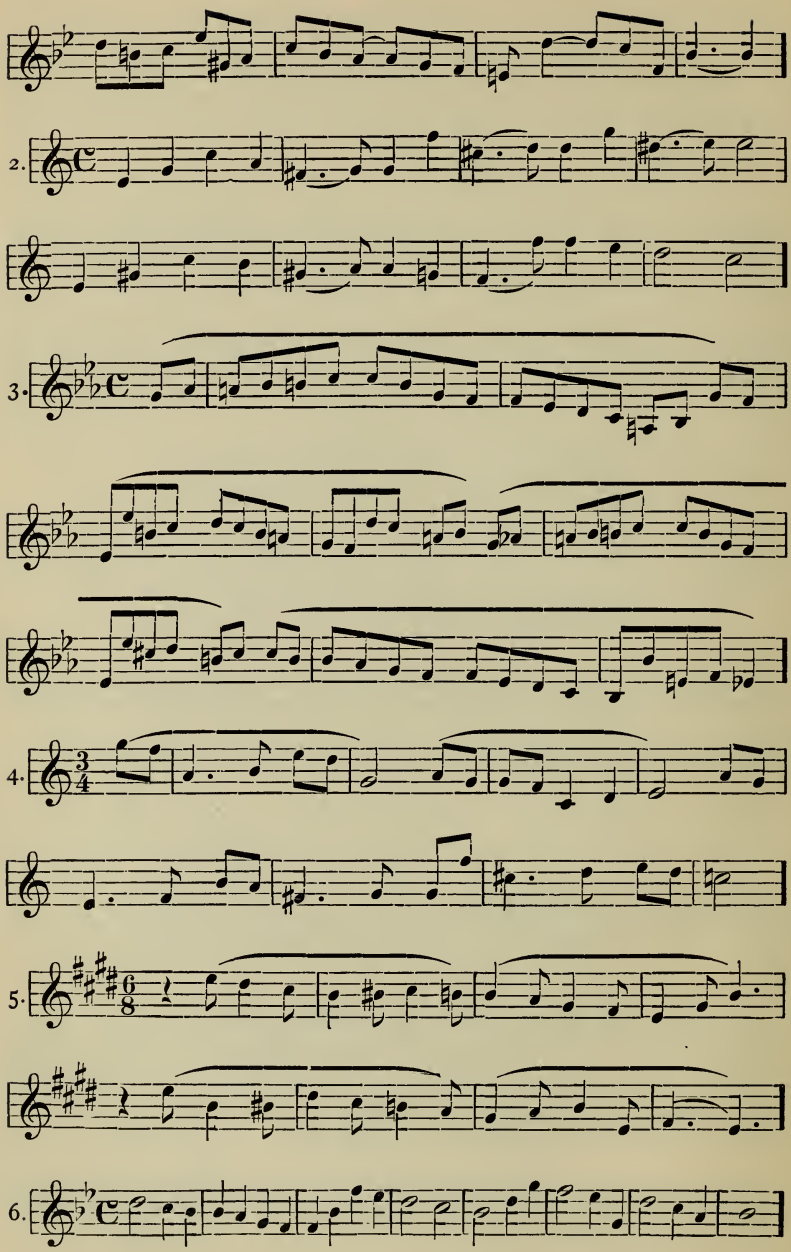
MODEL.

(On the same chord-basis as the model under Exercise 78.)

EXERCISE 81. Harmonize the following melodies, with appoggiatura-effects where such are available.

1.




2.
3.
4.
5.
6.

THE SUSTAINED TONE.

1 An interesting effect with inharmonic tones, often found in music, consists of a series of *chords* used inharmonically against a single tone, which, being sustained continuously or by repetition throughout all the harmonies, has the power to compel the frequent appearance of a chord or chords in which it is a chord-tone, and from which it may finally resolve as any other voice-
2 part does. This device has long been in use as an aid to tonality, the sustained tone chosen being an important scale-note, the *tonic* or *dominant*, for example, and in an important part, usually
3 the bass. Since this effect is very freely employed in organ-music, with a low bass tone sustained by a pedal of the organ, the tone itself is often called an **organ-point** or **pedal-point.***
4 The smoothest treatment of an organ-point would require that all the chords used with it be tendency- or passing-chords, having resolution in chords of which it is a member, and that the entrance and exit of the organ-point should be through chords of which it is a member.

J. BENEDICT: PART-SONG.

BRAHMS: SYMPHONY, op. 90.

* Point=Latin *punctum*, a note.

1 But the organ-point may enter, or even make exit, with an inharmonic *tendency*-chord, provided the chord-note is rightly treated as such.

2 A still bolder effect is obtained by using other chords than tendency- and passing-chords with the organ-point, even making
3 transient modulations, etc. In such cases, when the organ-point does not belong to several of the chords in succession, the parts which make the chords must be written independently of the sustained tone, the lowest part being made to conform to the
4 law which governs a bass. Since the working-out of such an organ-point is sure to be harsh, special care ought to be taken to make its entrance and exit smooth and rich.

DELIBES: LAKMÉ.

1 In modern compositions we occasionally find other organ-points than tonic or dominant; and frequently the sustained tone is in an upper part.

DELIBES: LAKMÉ.

2 Sometimes both tonic and dominant are used as a double organ-point, especially when the music is in five parts or more; and even triple organ-points (with added ninth) have, not very successfully, been attempted.

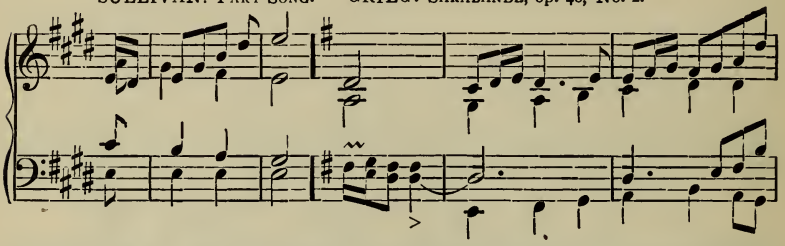
MENDELSSOHN: SONG WITHOUT WORDS, No. 35.

3 It is characteristic of modern music to make use of short sus-
4 tained tones, for two or three chords only, particularly on the tonic or the dominant at the cadence, with the original intent of the organ-point, that is, to aid tonality. Indeed, many combinations of tone that would need elaborate explanation on any

other basis, are instantly understood when seen to be produced by a momentary adoption of a stationary tone.*

MENDELSSOHN: PART-SONG. BRAHMS: REQUIEM.

SULLIVAN: PART-SONG. GRIEG: SARABANDE, op. 40, No. 2.



EXERCISE 82. Write cadence-groups with extended organ-points and sustained tones. Write cadence-groups with short sustained-tone effects at the cadence.

FREEDOM IN INHARMONIC MOVEMENT.

All of the uses of inharmonic tones already discussed, like the uses of simple chords, become, after they are once familiar to the musician, subject to the law of variety. Thus, as we find unusual resolutions of chords, we also meet with unusual uses of inharmonic tones.

As with the seventh in seventh-chords, the resolution of a suspension may be delayed, by the interposition of other chords in which the tone also appears as a suspension. Occasionally an interpolated chord contains the suspension-tone as a chord-

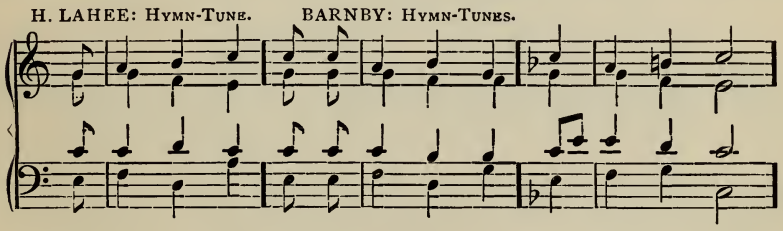
---

* Many theorists, for example, call the first chord of the last measure in the Mendelssohn illustration above, a Chord of the Thirteenth with third, fifth, and ninth omitted; and the chord in the second measure of the Brahms illustration, a Chord of the Eleventh, with third and seventh omitted, explanations which are open to the double objection that important tendency-notes of a chord are omitted, and that a dissonant chord is made to resolve to its *own* triad. But to call them momentary organ-points on the root of a chord, accompanied by an attendant of that chord, both simplifies explanation and is in keeping with the actual sensation which the music produces.

1 note, especially in a movement into a new key. But the suspension must always ultimately follow its tendency.

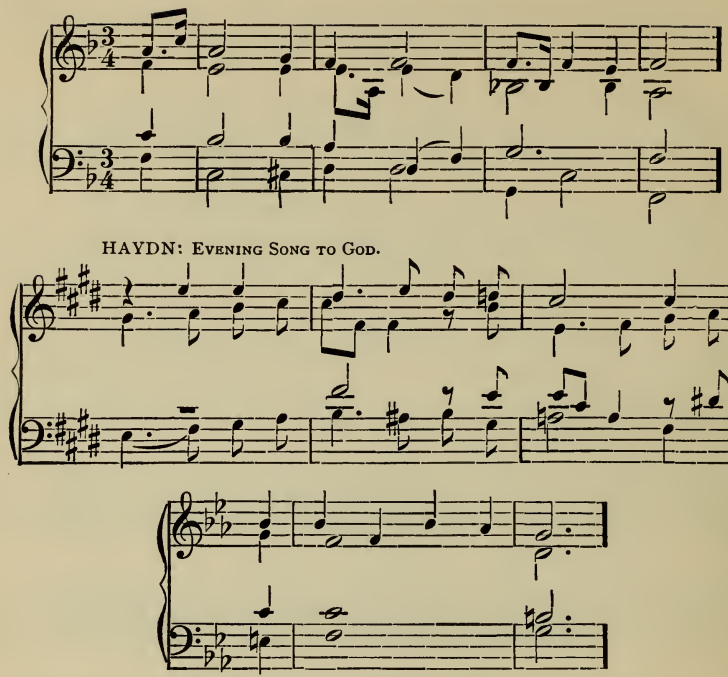
2 The suspension-chord is also sometimes repeated with the suspension in another part.

3 The resolution of a suspension also frequently occurs as its chord changes, the resolution-tone thus appearing first with the new chord.



4 A skip to some harmonized note, and return, is frequently inserted before or after the appearance of a passing-tone or sus-
5 pension. If the skip enters first, the inharmonic tone might simply be regarded as an appoggiatura, were not its connection with the note before the skip so apparent.

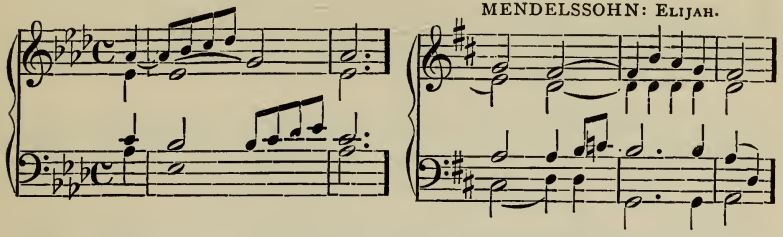
6 If the skip comes after the inharmonic tone, the return may be either to the inharmonic tone, which would then follow its tendency, or it may be to the resolution-tone itself.



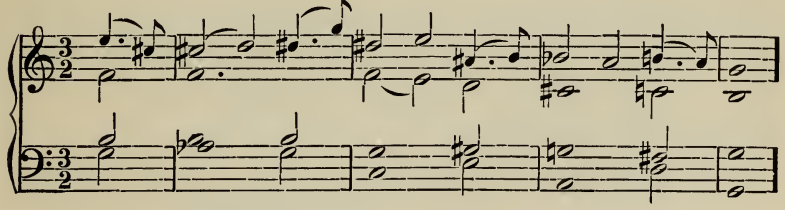
1 The skip may also be *to an inharmonic tone* which, being thus suggested, would also need resolution either before, with, or after the original inharmonic tone.

1 Instead of a skip after a suspension, the note to which a skip might be made can also be reached through a melodic passage, and the return alone be by skip; or the skip can occur, and
2 the return from it be by melodic passage. A melodic passage both ways is a rare interpolation.

MENDELSSOHN: ELIJAH.



3 A passing-tone or appoggiatura may itself be retained as a suspension with the next chord.

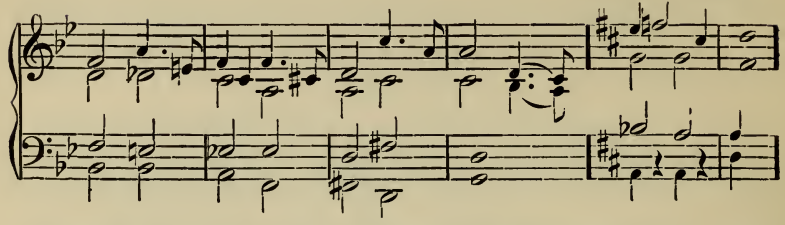


BRAHMS: REQUIEM.

† Rhythmically suspensions.

4 Perhaps the boldest license in the use of inharmonic tones is the device of leaving them in mid air, as it were, without reso-
5 lution (compare p. 109). This can be permitted only when they are so unmistakable in their tendency that the ear at once recognizes the true resolution, and supplies it unconsciously; and when, at the same time, the continuance both of the harmony and of the melody using the license *in no way hinders the*
6 *mind from supplying the resolution.* A successful use of this device is very delightful.

BRUCH: FRITHJOF.

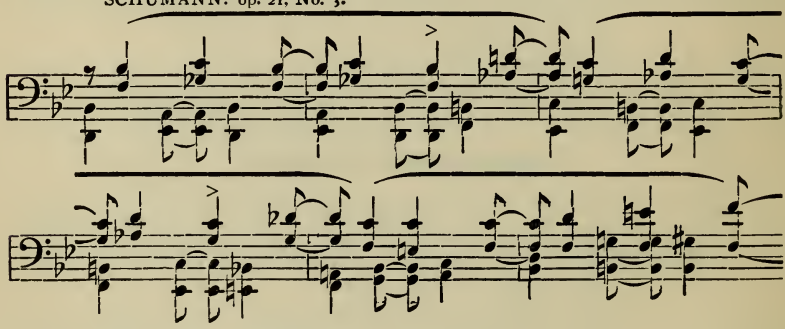


1 **EXERCISE 83. Write cadence-groups with free resolutions of inharmonic tones.**

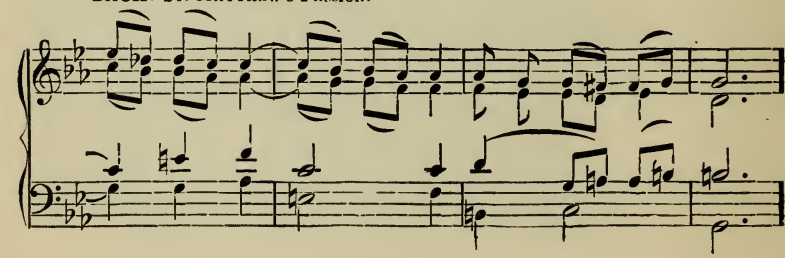
RETARDATION AND ANTICIPATION.

2 There is still another mode of dealing with chords, which produces inharmonic effects that are apparent rather than real; namely, by delaying some of the chord-tones until after the remainder have begun sounding, or by entering the new chord with some of the melodies, before the time for it rightly to ap-
3 pear. Such movements are called **Retardations** or **Anticipa-**
4 **tions.** The disturbance in either case is purely a rhythmic one; hence, the general laws of chord-progression are *in no way affected* by this irregularity.

SCHUMANN: op. 21, No. 3.



BACH: ST. MATTHEW'S PASSION.



When retardation or anticipation of a *complete chord* takes place, the effect is a syncopation (see p. 45, *et seq.*).

Syncopation is of great beauty when skilfully managed; but otherwise it introduces confusion into the rhythm, and is therefore unpleasant.

Observe that *restriking of the chord on the accent* does not take away the anticipation-effect.

BEETHOVEN: ELEGY, op. 118.

EXERCISE 84. Write cadence-groups with retardations, anticipations, and syncopation.

ELLIPSIS.

A careful student must have already recognized that the building-up of a musical structure is by well-defined steps; all effects, both the simplest and the most complex, resting upon laws, the interplay of which one upon the other produces a resultant that satisfies all laws, if it fits the æsthetic purpose at any given moment. He may also have observed, that the more subtle and difficult harmonic effects are just those in which modern writers appear most at home.

It is a peculiarity of the reasoning faculty, that when once a process of thought has been thoroughly mastered, still further regions of thought dependent upon the first may be reached directly without the conscious supplying of intermediate steps. This elision in thought is always based upon the *assumed ability of the mind to carry out at will the omitted steps.* This is a law common to all mental processes, in music, mathematics, or metaphysics. In music it supplies the key to much that has been puzzling to theorists and critics.*

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* It will be a valuable touchstone for many an article written in adverse criticism of the works of great composers, to ask: "Do the objectionable effects come under the head of failures to manifest the lyric, dramatic, etc., purpose desired, or are they the use of musical ellipses which the critic has failed to bridge, or, having bridged, declares to be too great a strain on the mind to make the music enjoyable?" It is a perfectly fair objection to a composer to say, that he has used simple effects where involved would have been better, or

This abbreviation of progressions can be made only where they are very familiar when unabbreviated, so that the omitted step can readily be understood. We have, for example, already had such abbreviation in the resolutions of seventh-chords made directly to other seventh-chords instead of first to the triad.

In like manner, composers sometimes treat suspensions and appoggiaturas, moving directly from the inharmonic form to the chord which should logically come second, omitting the resolution of the inharmonic tone.

BUCK: LIGHT OF ASIA. CORDER: THE BRIDAL OF TRIERMAIN.

SCHUMANN: NOVELLETTE, op. 21, No. 8.

NOTE. Many theorists have endeavored to account for these effects by the assumption of elaborate chord-formations with most of their notes omitted (compare p. 176, s. 7). For example, the chord cited in the first two illustrations above is called the Dominant Thirteenth, with fifth, and ninth, and eleventh omitted; the chord in the Schumann illustration is called the Dominant Eleventh, with third and ninth omitted. Those notes alone should be omitted from a chord which readily supply themselves in thought, whereas the chords here assumed are made available *only by the omissions in question.* The explanation is contrary to the nature of chord-structures. We leave out steps in logic, not parts in the framework of a house. But composers, like all creative artists, often leap from effect to effect with the swiftness of intuition; if you

---

involved effects where simple should have come, although the latter criticism sometimes suggests the possibility that it is the critic whose vision is straitened, not the composer. One is always living in the "Sturm und Drang" period, and we can judge clearly only of that which is long past. Still, it is of vast importance to understand the principles upon which our own times also are to be judged and stand for good or ill.

can follow them, well and good. They will not stop to describe the process for you, although they have elsewhere given it a hundred times. *The process, however, is there in every instance,* plain and definite for him who has the acuteness to detect it.

The number of such ellipses in common use is not very great. Those given in the above illustrations are perhaps the most popular. But it will be natural to expect the future of composition to supply many more.

One cannot formulate a rule of judgment by which students may know when to use and when to forbear use of the freer, more elaborate effects in harmony. But this much is true of all speech in art, by the mode of poetry or of music, that that which is simple and natural must always predominate; ornamentation, of whatever sort, will cloy, save as it occupies a secondary place in a really noble structure. Here lies the material; use of it tests the artist.

EXERCISE 85. Write cadence-groups with use of ellipsis.

Task XVII.

(To write four-part music in one-, two-, and three-period forms).

This is the final test of the student's understanding of the whole previous study. All the material of melodic, rhythmic, and harmonic structure necessary to four-part writing in simple forms is his to draw from. In these compositions, the harmonies may be made to shape the melodies; or the principal melodies may take form first, and the working-out of the other parts be a process of harmonization of melody. Both modes of creation are familiar to every good composer, and often he does not consciously separate the two, so instantly does one process follow the other.

EXERCISE 86.

MODELS.

E. J. HOPKINS: HYMN-TUNE.

Task XVIII.

(**To analyze four-part writing.**)

The student has now covered the ground of harmony proper, and should be able to grasp the harmonic meaning of all four-part writing.

Pianoforte and orchestral compositions introduce many new considerations, although much that is written for the piano will be altogether intelligible without further study.

It is, therefore, advisable, both as a means of getting yet firmer grasp of the principles of composition already presented, and as an æsthetic guide to choice among the multitude of possible harmonic effects, to analyze carefully a large number of part-writings in the smaller forms. Any good hymnary furnishes abundant examples of sacred music; to which should be added a proportionate number of secular glees and part-songs for male, female, and mixed choruses.

Task XIX.

(**To write with use of figured basses.**)

This task presents nothing new in harmony; but is necessary in order to understand the technical language of musicians, past

and present, and in order to use a mode of music-notation now fast becoming obsolete.

FIGURED BASSES.

1 As a convenience in musical notation, it was formerly often the custom for musicians who understood the laws of chord-connection, to write out only the lowest (bass) notes of a series of chords, and to indicate the remaining notes by figures stating the intervals which the necessary upper notes make with this
2 bass. This mode of notation has, for the most part, gone out
3 of use except as an aid in the study of harmony. When the intervals are fully figured, the reading of such a bass is quite simple; e. g., the figures $\frac{7}{4}_{2}$ above the bass *g* call for an *a*, a *c*, and an *f*; the figures $\frac{6}{5}_{3}$ above the *g* call for a *b*, a *d*, and an *e*;
4 the figures $\frac{8}{6}_{4}$ above the *g* call for a *c*, an *e*, and a *g*. Accidentals may be indicated with the figures just as with the notes; $\frac{\sharp 7}{5}_{\flat 2}^{4}$ above *g* call for ♭*a*, *c*, *d*, and ♯*f*.

5 But the figuring was in most cases abbreviated, the use of certain chords being so common that just a hint of their figuring would suggest the whole chord; and, in the modern use of figured basses, nearly every figuring is abbreviated.

TABLE OF CHORD-NAMES AND FIGURED BASSES.

6 The names which were given to the different chords and their inversions, have still been retained by modern musicians. A
7 table showing the most frequently used of these is here inserted for the convenience of the student.

Table.

CHORD-NAME.	FIGURING OF BASS. Full.	FIGURING OF BASS. Abbreviated.	DESCRIPTION.
Triad	8 5 3	(Usually not figured.)	Triad in fundamental position.
Chord of the Seventh	7 5 3	7	Seventh-chord in fundamental position.
" " " Ninth	9 7 5 3	9	Ninth-chord in fundamental position.
" " " Sixth	8 6 3	6	First inversion of a triad.
Chord of the Fourth and Sixth (Six-four chord)	8 6 4	6 4	Second inversion of a triad.
Chord of the Fifth and Sixth (Six-five-chord)	6 5 3	6 5	First inversion of a seventh-chord.
Chord of the Third, Fourth and Sixth (Six-four-three chord)	6 4 3	4 3	Second inversion of a seventh-chord.
Chord of the Second	6 4 2	2	Third inversion of a seventh-chord.
Chord of the Augmented Sixth, or the Italian Sixth	8 ♯6 3	6+	Altered chord No. 3, p. 130.*
The French Sixth	♯ 4 3	6+ 4 3	Altered chord No. 6, p. 130.*
The German Sixth	♯ 5 3	6+ 5	Altered chord No. 12, p. 130.*
The Neapolitan Sixth	8 (♭)6 3	N. 6	Altered chord No. 22, p. 135.†
Chord of the Fourth and Fifth	8 5 4	5 4	Triad in fundamental position, with suspended third.
Chord of the Second and Fifth	5 2	5 2	Triad with suspended third, suspension in bass.
Chord of the Sixth and Seventh	7 6 3	7 6	Seventh-chord, fundamental position, fifth suspended.
Chord of the Second, Fourth, and Seventh	7 4 2	7 4 2	Seventh-chord, third inversion, fifth suspended.
Etc., etc.			

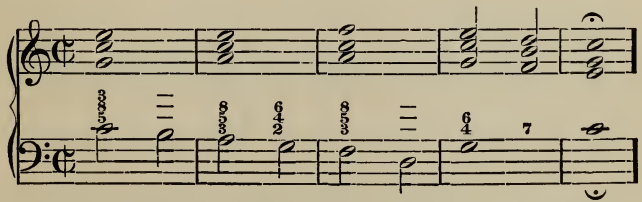
* See page 129.
† See page 134.

GENERAL RULES FOR WRITING AND READING FIGURED BASSES.

1 In determining the actual notes, the order of the figures is not regarded, i. e., the upper figure does not necessarily indicate the
2 highest pitch; laws of chord-connection care for this. Only the first chord is an exception to this rule; here the upper figure (usually the only figure) does indicate highest pitch.

3 Two series of figures over one bass note call for two chords, each chord occupying half the time of the bass note, unless this bass note occupies an uneven rhythmic portion of a measure.
4 In the latter case, one chord will fill the even division, the other the remaining time.

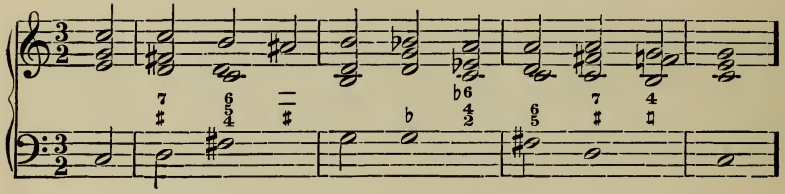
5 The *notes* called for by a series of figures, may be retained with a new bass note by using a series of short dashes over the second
6 bass note. The same effect could be obtained by writing figures over the new bass; *which would be different figures*, since the retained upper notes make other intervals with the new bass.



7 Instead of writing a sharp or a natural, to indicate a tone raised chromatically above the scale-note, it is more customary

to draw a line through the accompanying figure, as 6̸ for ♯6, or 4̸ for ♮4 (altered from ♭).

1 When an accidental is to be used with the third above the bass, the figure 3 is usually omitted; a ♯, ♭, or ♮ alone over a bass note, or with other figures above or below it, always meaning ♯3, ♭3, or ♮3.



2 For a bass part moving diatonically, and faster than a note to each time-unit, figures were formerly sometimes given only to the accented notes, the other bass notes being treated as inharmonic.

3 Modern figured basses would indicate the continuance of the same harmony by dashes.

4 **EXERCISE 87. Copy the bass parts of two exercises under each of the Tasks already written, and add figures in accordance with which the upper parts might be constructed.**

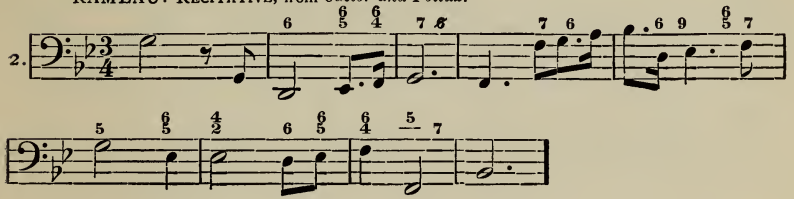
5 **EXERCISE 88. Write out in full, from the following figured basses, correct four-part harmonies.**

6 NOTE. Some places in Exercises 1, 2, and 3 were intended to be harmonized in three parts only; the setting in four parts is, therefore, somewhat more difficult, and may require several attempts before yielding satisfactory

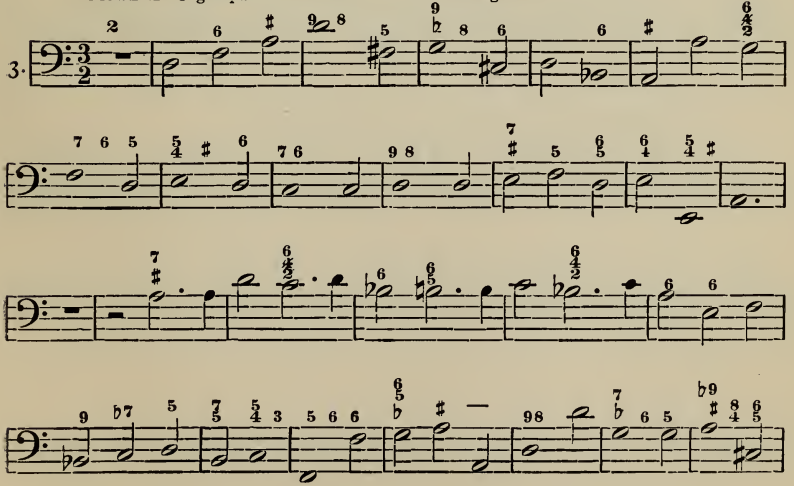
progressions of all the parts. If it seems advisable, the student may pass at once to Exercise 6, and return to the ancient figured basses later.

LULLY: Recitative, from *Armide*.

RAMEAU: Recitative, from *Castor and Pollux*.

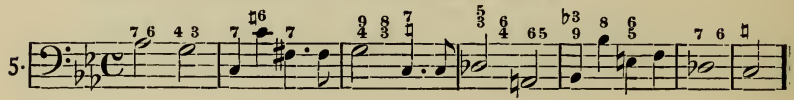


CORELLI: Organ-part to a *Sonata* for Violin and Organ.



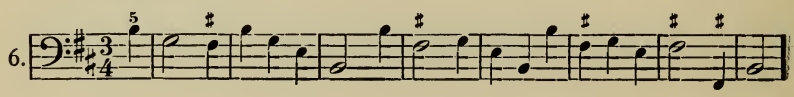
BACH: Basso Continuo to Kyrie of B Minor Mass.

HANDEL: Original figured bass, from No. 24, MESSIAH.



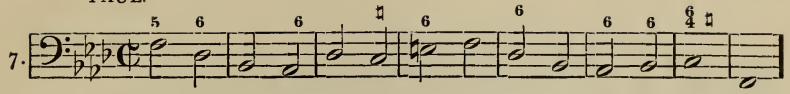
1 Note. Examples of figured basses could be multiplied from the works of
2 this period and earlier. Modern figured basses are scarcely to be found outside of text-books, from which, therefore, the following, to illustrate more modern usages, are taken.

FAISST.



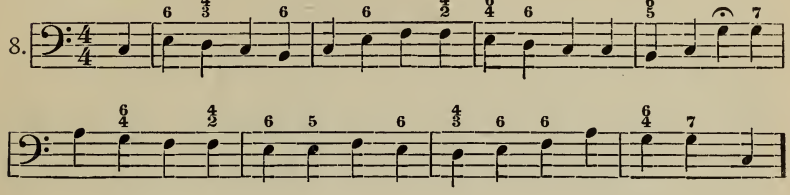
PAUL.

7.



PROUT.

8.

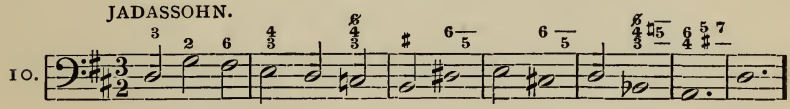


BUSSLER.

9.

JADASSOHN.

10.



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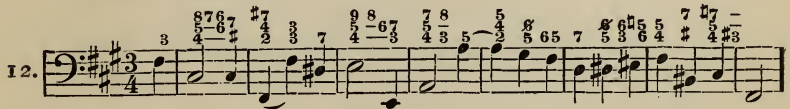

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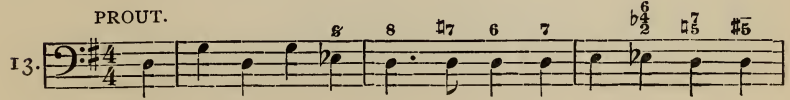

NOTE.—For further study of figured basses the student is referred to Basses and Melodies, by Ralph Dunstan, in the Novello, Ewer and Company's Music Primers.

CONCLUDING REMARKS.

The student has now completed what may be called the grammar of music. Further study must be directed to those modifications in the treatment of the harmonic, melodic, and rhythmic structure which need to be made under special æsthetic conditions. Such problems belong to a treatise on composition, and cannot, therefore, be discussed in detail here. The mention of some of them, however, may hint to the student, who now stands on the border-land of actual creative work, in what directions he can find profit and delight in further technical study.

Problem I. How are harmonic structure and independence of melody to be preserved when one wishes to write for more, or for less, than four parts?

Problem II. How may simultaneous melodies be made more free and interesting without injuring the harmonic effects?

Problem III. What treatments of harmony, melody, and rhythm are possible if one desires to have a single melody, or even several melodies, accompanied by distinctly subordinate effects?

Problem IV. What reinforcements of a melody at unison or octave, are suitable in writing for human voices, voices and instruments, single instruments with a keyboard, groups of instruments, etc.?

Problem V. How is unity of thought to be obtained in the various Forms of music, large and small?

Problem VI. How is poetry to be wedded to music?

Problem VII. What are the means suitable for the expression

of the various phases of emotion which music can legitimately picture?

1 The study of Counterpoint, strict and free (which is, in reality, but the Grammar of music presented from the melodic standpoint), and of Canon and Fugue, partially answers Problems I, II, and III.

2 The study of Form is usually made to include the answer to Problems III, IV (partially), V, and VI.

3 The study of orchestral writing completes the answers to Problems I, II, III, IV, and V.

4 While hints as to the answer of Problem VII are to be found in all these branches of advanced study, and in general dissertations on the province of musical expression, in practice, however, the student is expected to answer it himself in the process of growth, mental and spiritual, which his technical training compels.

INDEX.

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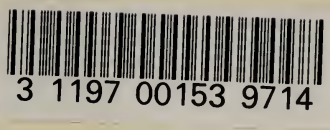
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